

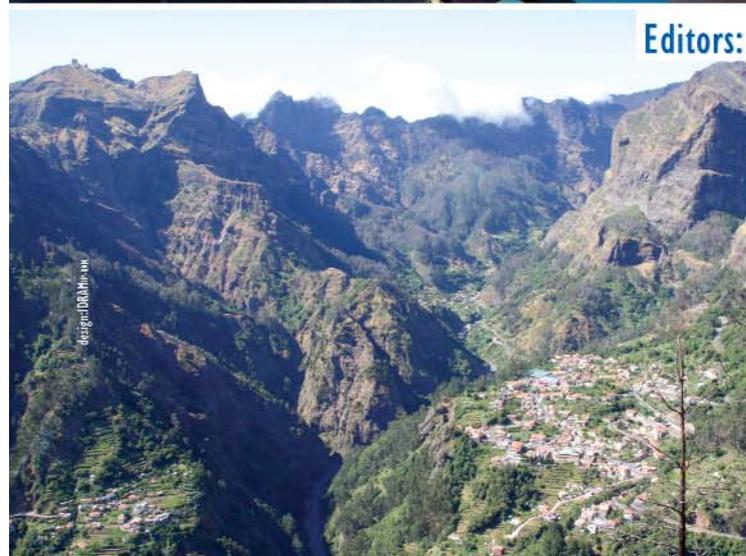


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Sport and Exercise Psychology: Human Performance, Well-Being and Health

Proceedings of the 13th FEPSAC European Congress of Sport Psychology



Editors: Sidónio Serpa
Nelson Teixeira
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Francisco Fernandes
Regional Secretary of Education and Culture

Today, the Autonomous Region of Madeira assumes itself as a stage for international events, being them in the sport, scientific or cultural ambit, with relevant impact on society's development and the notoriety of its institutions.

In this context, sport has been a continuous regional bid. The organization of the 13th FEPSAC European Congress of Sport and Exercise Psychology arises as an example of synergies between public administration, scientific societies and universities, resulting in a cooperation that enlarges the relevance of the event.

In addition, the speakers and the scientific programme augur excellent contributions to sport and exercise psychology, whilst a scientific domain or a professional instrument.



Catanho José
President of the Institute of Sport of the Autonomous Region of Madeira

Madeira and most specifically the city of Funchal, will receive between the 12th and the 17th of July, the 13th FEPSAC Congress of Sport and Exercise Psychology.

The Sports Institute of the Autonomous Region of Madeira (IDRAM, IP-RAM) beholds the responsibility of organizing this event, partnered by the Faculty of Human Kinetics (Lisbon Technical University), the University of Madeira and also with the support of the Portuguese Sport Psychology Society.

We have a clear notion of the importance of this congress and what it represents for our Region in the filed of science tourism. We engage this challenge with enormous joy, acknowledging the level of commitment that its fulfilment requires.

The fact that this event would include over 600 participants, more than 80 symposiums, 370 posters, with the involvement of scientists from all over the world and dealing with one of the most important issues today in sport and exercise development, namely the contribution of Sport and Exercise Psychology, were the main factors that lead us to embrace this challenge.

All we be done to guarantee the expectations that were consigned to our organizational abilities, in a way that best dignifies the institutions represented, namely FEPSAC.

We wish all participants a great and profitable congress, a fantastic stay in Madeira and that everybody may enjoy the best that Madeira has to offer.

Best regards
IDRAM, IP-RAM



Paul Wylleman
FEPSAC President

On behalf of the European Federation of Sport Psychology FEPSAC it is my great pleasure to welcome sport psychologists and all interested in sport and exercise psychology from all over the world to participate in the 13th European Congress of Sport Psychology.

The congress theme "Sport and Exercise Psychology: Human Performance, Well-Being and Health" has been chosen as it will allow for scientific contributions on research, conceptual frameworks, methodologies, as well as support service provision in domains where sport and exercise psychologists have been providing important contributions during the past decades.

FEPSAC's 13th European Congress will take place from 12 to 17 July 2011 in Funchal, Madeira. In tradition with prior congresses, FEPSAC and the local organizing committee aim at providing congress participants not only with a high-level quality programme, including expert and exciting key-note presenters, but also with the opportunity to foster contacts and informal exchanges with other participants from Europe and around the world.

The congress is organised by the Institute of Sport of the Autonomous Region of Madeira (IDRAM), the Faculty of Human Kinetics of the Technical University of Lisbon, the University of Madeira and supported by the Portuguese Society of Sport Psychology under the auspices of the European Federation of Sport Psychology (FEPSAC) on the wonderful island of Madeira. The congress hotel as well as the congress centre are located on the beautiful coastline nearby Funchal and will provide participants with excellent opportunities for scientific, social as well as touristic activities.

I am convinced that FEPSAC's 13th European Congress will attract many from the sport and exercise psychology community and thus provide students, young as well as seasoned scientists and practitioners with a wonderful scientific and social experience.

Looking forward to welcome you and your colleagues, as well as your partner and/or family to Madeira in July 2011



Sidónio Serpa
Congress Chairman

The opportunity for the sport psychology Community to meet once more in the FEPSAC European Congress of Sport Psychology has come again, four years after Halkidiki, in Greece.

The famous hospitality of the Madeira Island and its Capital, Funchal, founded in the XV Century by the Portuguese sailors and explorers will contribute to the outstanding experience of the congress participants in the XIII edition of the FEPSAC European Congress of Sport Psychology, and will help to develop the adequate state of mind in order to enjoy the scientific presentations and interactions.

The Local Organizing Committee, strongly supported by the Institute of Sports of the Autonomous Region of Madeira, has planned all the details for the scientific program to flow in one pleasant environment using nice facilities. A Social Program was also carefully prepared to give all the participants the possibility of experiencing the local typical places and flavours.

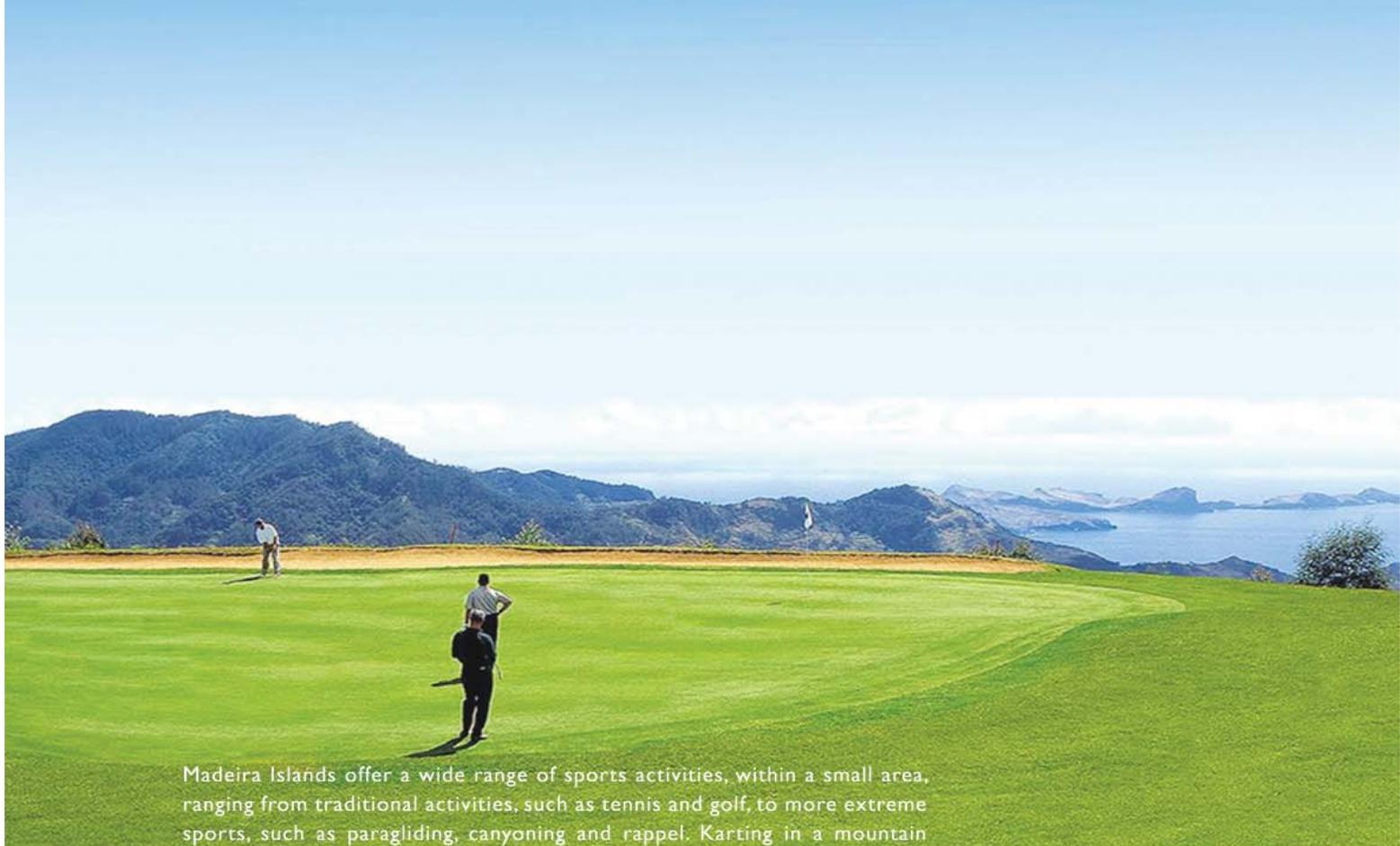
The University of Madeira and the Faculty of Human Kinetics of the Technical University of Lisbon have given an important contribution to the preparation of this scientific event that is institutionally sponsored by the Portuguese Society of Sport Psychology.

The Scientific Committee worked hard as well. Indeed, the number of paper submissions surpassed our best expectations. More than 800 submissions from all over the world were received. This expresses the increasing interest in our scientific field, but also confirms that the FEPSAC Managing Council understood the motivation and confidence of the sport psychology Community in regard to the congress site.

I expect that the period 12-17 July 2011 will leave a very happy memory in all the participants' lives. I wish that new friendship connections will start and new personal contacts and professional projects will be established. I believe that new cultural experiences will help all of us to have a better understanding of the world. I trust that the peaceful and natural environment will stimulate the mental and physical relaxation.

I look forward to meeting all colleagues coming from the five Continents and I welcome all of you in the XIII FEPSAC European Congress of Sport Psychology.





Madeira Islands offer a wide range of sports activities, within a small area, ranging from traditional activities, such as tennis and golf, to more extreme sports, such as paragliding, canyoning and rappel. Karting in a mountain valley and paragliding over the ocean are other appealing offers.



Keynotes

Sea lovers can benefit from the warm sea currents, with temperatures ranging between 19° and 24°C, ideal for snorkelling, diving, sailing, surfing, windsurfing and sport fishing, all year round.



The best waves in Europe, at the Jardim do Mar, Fajã da Areia (São Vicente) and Porto da Cruz beaches.



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Professor Hanton, Sheldon
University of Wales Institute (Cardiff School of Sport), Cardiff, United Kingdom

Sheldon Hanton is a Professor of Sport Psychology in the Cardiff School of Sport at the University of Wales Institute, Cardiff. He received his PhD in 1996 from Loughborough University and is currently the Research Excellence Framework Director for his institution. Sheldon is the Professional Practice Editor of *The Sport Psychologist*, on the Advisory Board for the *Journal of Sports Sciences*, the Editorial Board for the *Journal of Applied Sport Psychology*, the *Journal of Imagery Research in Sport and Physical Activity* and *Qualitative Research in Sport and Exercise*. He is also a member of the Economic and Social Research Council's Peer Review College. Professor Hanton lists his interests as stress and anxiety, organizational psychology, sports injury, reflective practice, and the subject matter of his keynote lecture: Mental Toughness. Sheldon has published over 200 peer-reviewed journal articles, edited texts, book chapters and refereed conference papers. He has advised on 12 PhD completions, examined internationally and is currently supervising 9 Doctoral candidates. Sheldon is an Accredited Psychologist with the British Association of Sport and Exercise Sciences, a Registered Olympic Psychologist, and a Certified Consultant and Fellow with the Association for Applied Sport Psychology. He is also a Chartered Psychologist with the British Psychological Society and Registered with the United States Olympic Committee. Sheldon regularly works with elite populations on psychological preparation and supervises trainee sport psychologists to attain professional status. As a former National High Performance Centre Psychologist he advised the England Swim Team and consulted at international training camps and competitions.

Another Decade of Research and Still the Question Remains: What is this Thing Called Mental Toughness?

During the past decade, mental toughness has become one of the most popular areas of inquiry within the field of sport psychology. Researchers have devoted most of their efforts to attempting to define what mental toughness is, identifying its underpinning attributes, and examining issues relating to its measurement and development. Qualitative approaches in the form of individual and group interviews initially dominated the peer-reviewed literature although the emphasis has shifted recently to quantitative examinations using mental toughness inventories. Notwithstanding the advancement of knowledge in all of these areas, differences of opinion still exist, particularly regarding conceptual and rhetorical issues and inevitably the consequential measurement complications. Following a brief historical overview of the literature, this lecture discusses the important areas of debate together with the main practical implications relating to the identified qualities of success, particularly within elite sporting populations. Adopting an introspective stance, Professor Hanton reflects on the lessons he has learnt from conducting research in mental toughness and the implications for generating quality research in the field of sport psychology. The lecture draws to close by returning to the fundamental question – what is this thing called mental toughness? – and offers suggestions for the direction of the next decade's research in this area.



Professor Sparkes, Andrew
Andrew C. Sparkes PhD is Professor of Sport & Body Pedagogy in the Faculty of Education, Community & Leisure at Liverpool John Moores University, Liverpool, L17 6BD, England

His research interests revolve around the ways that people experience different forms of embodiment over time in a variety of contexts. Recent work has focused on performing bodies and identity formation; catastrophic spinal cord injury in sport and the narrative reconstruction of self; ageing bodies; and the lives and careers of marginalized individuals and groups.

These interests are framed by a desire to develop interpretative forms of understanding via the use of life history, ethnography, and narrative approaches. His work is nomadic in nature, operating across disciplinary boundaries and flourishing in the fertile spaces between them. Whilst respecting traditions he seeks to



trouble standard notions of method and aspires to represent lived experience using a variety of genres. Andrew has published extensively on his research interests as well as on methodological issues in leading texts and journals across a range of disciplines.

Qualitative Research in Sport and Exercise Psychology: Future Challenges and Points of Contestation

In recent years various forms of qualitative research have become increasingly popular within sport and exercise psychology and are now being used to investigate a range of phenomena. While this rise in popularity is to be welcomed it also needs to be problematized and challenged if qualitative research is to develop greater levels of sophistication and achieve its full potential within the discipline. Accordingly, in this presentation I offer some personal reflections on the challenges that qualitative researchers in sport and exercise psychology might wish to address in the future. Topics touched upon, some lightly and some heavily, include the following: Examining the nature of trust and rapport within interview and field settings; Balancing concerns with the 'what's and 'hows' of story-telling alongside a recognition of the performative dynamics of this process; Acknowledging ethnographers as an endangered species in need of saving; Bringing the body back in to the analytical process in a reflexive manner; Destabilizing the emergence of mixed-methods research and exploring tensions between the purists and the pragmatists; Scrutinizing vested interests and the use/abuse of using inappropriate criteria to judge different forms of research. Throughout the presentation points of contestation will be identified and celebrated as opportunities for critical and respectful dialogue within sport and exercise psychology that can enhance the discipline in multiple ways.



Thursday, July 14th | 12:00 - 13:00 - Keynote 3

Professor Pensgaard, Anne Marte
Norwegian School of Sport Sciences (Department Coaching and Psychology), Oslo and the
Norwegian Olympic Training Centre, Oslo, Norway

Professor Pensgaard has a joint position at the Norwegian School of Sport Sciences and as head of the Sport Psychology department at the Norwegian Olympic Training Center. She has published extensively within the field of elite sport, motivation and coping with stress and also written several books and produced DVD's and CD's on mental training. She has been accredited sport psychologist at five Olympic Games and has worked with several World Champions and Olympic Gold Medalists in soccer, handball, orienteering and skiing. Currently, she is involved with preparing athletes for the Olympic Games in London 2012 and in Sochi 2014. She is also engaged by the University of Tromsø to contribute to build a center for excellence in sport where mindfulness is one major philosophy. In Spring 2011 she launched a CD on mental training and awareness together with world know jazz pianist Bugge Wesseltoft. In her leisure time Professor Pensgaard enjoys extreme outdoor life and has crossed Greenland in 1990 as part of the first all-female expedition, and in 2000 she and Marit Holm used one month to ski Svalbard from north to south, again, as the first all-female expedition.

Applied Sport Psychology

Excellent performances at the elite level are a delicate composition of physical strength and endurance, tactical cleverness, technical distinction, strong determination and mental flexibility. It takes thousands of hours to develop these skills to a level which makes an athlete become the best in the world in his or her sport. Knowledge of how these skills are developed and trained has evolved over the last three to four decades and now, in 2011, mental training seems to have reached a new level. While it traditionally used to mainly consist of Psychological Skills Training, there now seems to be a consensus that psychological training at the Elite level also include more basic issues like self esteem and self worth, awareness, general coping abilities, optimism and motivation. Perspectives like mindfulness training and integrated mental training into the physical training have become more common and examples will be presented of how this has been conducted leading up the 2010 Olympic Winter games. Although it is a challenge to conduct traditional strong scientific research designs in order to test the effect of these new (and old!) approaches, there is emerging evidence that mental training has become an important part of today's elite sport persons and that also elite coaches benefits from the same type of practice. Current status and future trends will be discussed.



Professor Rosnet, Elisabeth
 Université de Reims Champagne Ardenne (Laboratoire de Psychologie Appliquée), Reims and
 the Institut National du Sport, de l'Expertise et de la Performance (INSEP), Paris, France

Elisabeth Rosnet is currently head of the Research Department in the French National Institute of Sport, Expertise and Performance in Paris after being head of the Laboratory of Applied Psychology in the University of Reims, France. Her research main topic is psychological adaptation of “normal” people to unusual and stressful situations, like polar wintering, space flight and top-performance sport. She's conducted many research protocols in these domains, including direct data collections that led her 6 times in Antarctica to debrief winterers and investigations during long term flight simulations. She's also since 20 years the psychologist of the French Fencing Federation, giving her the opportunity to work with top-performance fencers.

Sport, Exercise, Polar and Space Psychology: links and Challenges

Living in polar and space environments is considered as stressful and challenging for people who are confronted to. Several aspects of high sport performance allow to envisage some common theoretical and methodological backgrounds and skates with these extreme situations. Winterers, astronauts, and athletes are more often basically non pathological persons who faced highly stressful situations. This can induce unusual behaviors that would have few probability to appear if people did not decide deliberately to cope with these specific conditions. These behaviors can induce poor performance in a context of required excellence. The keynote will provide a broad scope of knowledge and tools that can be brought from polar and space to sport and exercise psychology and from sport and exercise to polar and space psychology. Different topics will be discussed, like coping strategies or group behavior and applications will be structured according to detection (or selection), training and support phases.

Saturday, July 16th | 12:00 - 13:00 - Keynote 5



Professor Gaspar de Matos, Margarida
 Technical University of Lisbon - Faculty of Human Kinetics and the Universidade Nova de
 Lisboa (CMDT-LA), Lisbon, Portugal
 & Antony Morgan, PhD, Nice, UK

Degree in Clinical Psychology Instituto Superior de Psicologia Aplicada
 Post Graduation in Human Biology (AEU - Attestation d'Etudes Universitaires) Universidade Claude Bernard
 - LYON - FRANCE

Psychology of Education- ISPA / Universidade de Bristol (“Master of Education”).

PhD Human Kinetics – Special needs and rehabilitation- Social Behaviour Faculdade de Motricidade Humana

Post doctoral training:

S. Diego University (grant from JNICT).

Leidsehogeschool / Leiden School of Public Health.

Queensland University of Technology (QUT), School of Public Health (Brisbane).

Full Professorship exam – International Health - School of Hygiene and Tropical Medicine - Lisbon.

Now :

Full Professor at School of Human Kinetics/ Technical University of Lisbon. Coordinator of the Research and Teaching Group : Health Education & Promotion

Senior Principal Researcher at Center for Malaria and Tropical Diseases - Coordinates the Research Group - Health & Education / School of Hygiene and Tropical Medicine/ New University of Lisbon.

She coordinates several national and european level research projects and she is the portuguese representative at several european level research networks.

Extensive experience teaching, researching, team coordination, publishing , as well as collaborating with African,



Latin American and Asian countries, regarding health related research, or training projects.

Health Assets for the promotion of personal and social health and wellbeing in children and adolescents

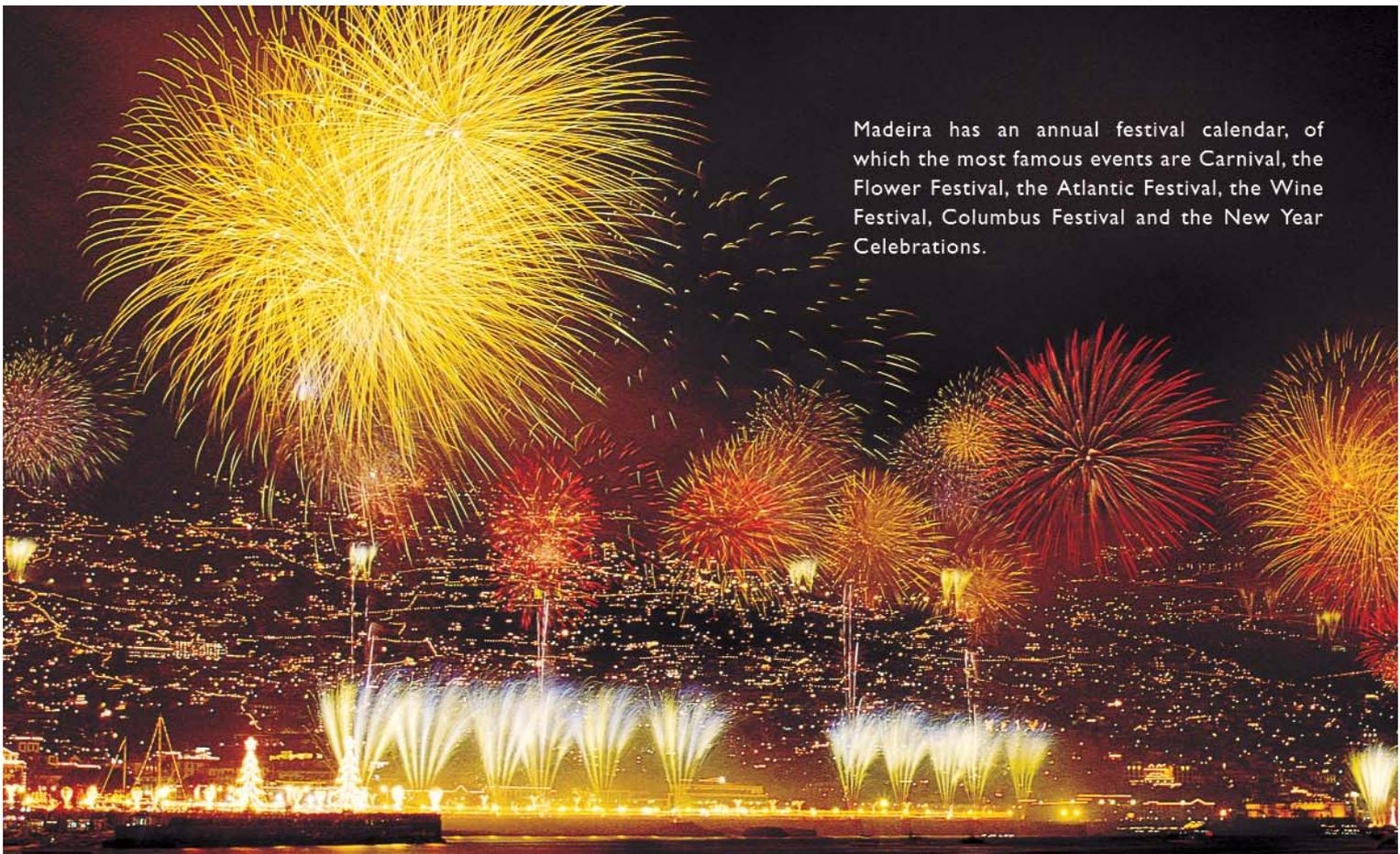
One of the great challenges of this century, has been made clear by the 'Millennium Goals (MDG)' - that is to ensure access to health and education "for all", and to achieve the eradication of poverty and inequities. Commitment to achieve these goals, at a European level at least, is currently high. The last 2 EU Presidencies' in Finland and Spain focused on 'Health in all policies' and 'Health and equity in all policies' respectively. High level policy commitment is the first step in moving towards our ambitious goals but not in themselves enough to make the vision a reality

Despite these commitments, ways of achieving them are still heavily dominated by deficit approaches to health majoring on the need to reduce disease and mortality rather than an emphasis on the here and now, by focusing on happiness and wellbeing. An additional challenge therefore is how we can shift the balance so our plans for health take a more constructive and proactive 'assets' based approach to fulfil the aims of the MDG

The starting point for such a shift is to ask different questions to help us create an evidence base on how to create health. Asset based questions include: what makes us better able to deal with day to day challenges?; how can we be open to positive experiences?; what can organisations and institutions do to help us grow as individuals and as societies? . ; In addition we need to ask the following questions to assess how we take action most effectively: how do we identify and build upon the strengths of each person, group or community?; how can we think globally and act locally to understand the specific needs of individuals, groups and cultures?; how do we create synergies and eliminate "waste," creating wealth in times of "crisis?; how can we involve those who we are trying to help (children, adolescents, vulnerable adults, elderly) appropriately and well?; How to remain attentive to the " new vulnerable groups"?; What are the barriers to developing asset based policy in education, health and social welfare?.

This paper uses these questions to build a case study on how best to create the conditions for the personal and social wellbeing of Portuguese children and adolescents. It focuses on 3 potential assets the promotion of skills, self-regulation and social capital, as they are associated with 'sedentary behaviour or active behaviour', 'nutrition, body appearance and BMI' & 'personal and social well being'. In doing so it will highlight how asset based approaches can contribute to the broader goals of National and International policies for health and development.





Madeira has an annual festival calendar, of which the most famous events are Carnival, the Flower Festival, the Atlantic Festival, the Wine Festival, Columbus Festival and the New Year Celebrations.

www.madeiratourism.org



Symposia







Symposium Session I | Wednesday, July 13th | 08:30-10:00

Psychology applied to football: working with professional players and coaches.

Organizer: Geir Jordet (Norwegian School of Sport Sciences, Norway)

Discussant: Chris Harwood (Loughborough University, UK)

Football (soccer) is often considered to be the largest sport in the world, with surveys showing that 4% of the world's population regularly play it (FIFA, 2006). With respect to spectators, more than 10% of the population watched the 2010 World Cup final (FIFA, 2010). Given this widespread interest, it is not surprising that many professional football organizations now heavily rely on cutting edge sport science programs, with certain clubs in the English Premier League and the Italian Serie A each employing as many as 30-40 scientists. However, gaining entry to this context can still be particularly difficult for sport psychologists and there are still relatively few sport psychology practitioners working full time for these organizations. Although there are notable exceptions, this may be explained by a belief that many professional club directors and coaches tend to have traditionalist, conservative and often overly critical views about sport psychology. It is however also possible that sport psychology consultants simply have not been able to tailor their interventions well enough to this context and/or to provide effective enough service delivery to this highly critical community. In this symposium, three experienced sport psychology consultants, who each has spent years working with professional football coaches and players will present some of their keys to effective sport psychology delivery in professional football. Topics that will be touched upon are entry into professional football, appropriate use of assessment tools, specific ways to communicate, the effect of particular techniques and general program effectiveness.

A long-term mental training program in a professional norwegian football club.

Anne Marte Pensgaard (Norwegian School of Sport Sciences, Norway)

Working with a team versus with individual athletes, present different challenges and may favour a slightly different approach. A common feature is to establish a well-working relationship with the coach. However, when it comes to dealing with the athletes' or players' needs and acquirements, working with teams may call for a different way to do things. In 2009 I started to work with a professional football (soccer) team in Norway. Initially, it was a two-year contract, but during the first year it was decided to extend it with two additional years. The first year, the main focus was to work with the coaching staff and medical team in order to establish an environment to foster mental toughness and productive team work. Three team sessions were conducted in the pre-season. The second year (2010) more involvement with the players commenced and follow-up with especially the younger players were prioritized. Due to a huge turn-over in the squad this was considered important. A focus on cultural challenges was also discussed due to the fact that there were several different nationalities on the team. The third season (2011) which is now coming up, one important aim is to establish a "winning culture" in order to be able to reproduce the good results from the 2010 season. Experiences so far will be discussed.

Using jungian types in pre-season teambuilding with a professional belgian football team.

Kris Perquy (Maenhout & Perquy - Mental Coaching in Topsport, Belgium)

The Myers-Briggs Type Indicator (MBTI) assessment is a psychometric questionnaire that measures how people perceive the world and make decisions in it. This system based on Jungian action types can be a powerful practical tool with athletes. In this presentation, it will be shown how the tool can be used in a professional football context. The aim was to use it to integrate new players and build the framework for effective peer-to-peer (player to player) coaching in the squad. This was done using a two and a half day teambuilding event in the pre-season. The full squad of 24 players and 4 coaches participated. The objectives were to quickly integrate the new players, leap forward in the mutual coaching of the players, and introduce the new head coach in the team. Specifically, this involved practical exercises, videos, practical advice for how coaches can use the action types in coaching, and structured feedback. The lessons learned from the event were debriefed, translated into concrete action plans, and integrated in personal player reports. The coaches' evaluation of the process was very favorable and the team performed well in the period that followed. This



presentation will end with some practical suggestions for how sport psychologists can apply this and similar assessment tools with both footballers and athletes in other sports at a high level of performance.

From psychobabble to functional advice: communicating effectively with professional football players.

Geir Jordet (Norwegian School of Sport Sciences, Norway)

Football shares psychological similarities with other sports (in particular team sports), but the game and the culture surrounding it certainly also have many unique features. In general, it is logical that knowledge of the specific contextual features of a game can help sport psychology consultants both to target the variables most critical to performance and communicate more effectively. This is reflected in the literature (Gilbourne & Richardsson, 2006; Nesti, 2010), where it has been pointed out that the specifics of the professional football context may require sport psychologists to deliver much more than psychological skills training. The purpose of this presentation is to describe a model that can guide sport psychologists who work in professional football and help them dealing with some of these features of and around the game. Conceptually, the model is based on principles from ecological/dynamical systems psychology, but it is also inspired from guidelines in "Functional training" (from sport physiology, e.g., Boyle, 2010) and the development of systems of "Error management" (from research on High-reliability organizations, e.g., Helmreich et al., 1999). An important part of the model is communication. It is argued that the manner in which sport psychology consultants communicate their messages is critical for program effectiveness. Ways to communicate with football coaches and players will be illustrated with experiences from a 3-year employment working as a consultant for a national Football Association and its Premier League, involving the provision of sport psychology services of various type to 8 professional teams.

Sport and personal development.

Organizer: Reinhard Stelter (University of Copenhagen, Denmark)

Discussant: Anne-Marie Elbe (University of Copenhagen, Denmark)

The philosophical stance of group coaching as narrative-collaborative practice.

Reinhard Stelter (Department of Exercise and Sport Sciences, University of Copenhagen, Denmark)

Sport psychology delivery and culture in professional sport: surviving and succeeding.

Mark Nesti (School of Sport and Exercise Sciences, Liverpool John Moores University, UK).

Managing the Social and Psychological Preparation of Young Footballers.

Dave Richardson (The Football Exchange Research Institute for Sport and Exercise Sciences, Liverpool John Moores University, UK)

Martin Littlewood (The Football Exchange Research Institute for Sport and Exercise Sciences, Liverpool John Moores University, UK)

Mark Nesti (School of Sport and Exercise Sciences, Liverpool John Moores University)

Hugo Relvas (School of Sport and Exercise Sciences, Liverpool John Moores University)

Influence of relationships on emotions, coping, adaptation and performance in extreme and sport situations.

Organizer: Elisabeth Rosnet (National Institute of Sport, Expertise and Performance, INSEP, France)

Discussant: Elisabeth Rosnet (National Institute of Sport, Expertise and Performance, INSEP, France)

This symposium is thought as a declinaison of Rosnet's keynote and will combine papers dealing with performance in sport and polar environment. The central question is the place of others and interpersonal relationships in differents areas related to adaptation and performance.



First, the topic of emotion will be questioned from an interpersonal point of view and especially inside a sport team. May an individual exert an influence on the team affectivity and, conversely, may the team influence a member's emotional state?

Secondly, the coping strategies used in polar stations and their efficiency will be explored in relation with the interpersonal values of the winterers. Do what the expedition members consider as important in their relationships to others have any relation with the choice and the efficiency of the coping strategies used?

Thirdly, the role of the interpersonal relationships, including interaction and cooperation, will be explored in the context of turnover in Antarctica. Procedural knowledge used by winterers and the way they communicate instructions to their arriving colleague will be discussed in comparison with other transmission's procedure like tutoring process.

Finally, on a longer scale, the place and role of "important others" in positive and crisis transition phases during a top sport career will be analysed in relation according to the time and the nature of the transitions.

The discussion of the symposium will insist on the effects of the interpersonal aspects in the above areas and highlight possible generalizations from sport to extreme environments and vice versa.

Group emotions in sport. What are the influences of athletes and the team on each others?

Mickaël Campo (Université de Lyon I, Université de Tours, France)

Stephane Champely (Université Lyon I, France)

Elisabeth Rosnet (INSEP, France)

Claude Ferrand (Université de Tours, France).

Emotions are inherent to our life and competitions bring occasions to experience intense emotional episodes. Emotion topic has generated numerous papers mentioning their impact on sport performance. However, emotions were mainly studied from an intrapersonal view, forsaking consequently the others' influence. Recent advances in social sciences have suggested that emotions should be investigated at a group level. Several lines of investigation are discovering such as emotional contagion or mood synchronisation. Similarly, Totterdell (2000) investigated interpersonal mood induction in team sport and Barsade and Gibson (1998) suggested that an individual may exert an influence on the team affectivity and, conversely, the team may influence a member's emotional state. In the line of these authors, the aim of this study was to investigate the emotional process in sport from a top and bottom view. Thirty u21 elite rugby union players ($M = 19.06$, $SD = 0.78$) participated in the study. Participants were randomly assigned in two groups exposed to different experimental conditions: (G1) individual goal, (G2) collective goal. The experimentation consisted in playing a 30min-game between both groups. Next, through a video session, participants (1) assessed the emotions experienced during the entire game from individual and group perspectives, and (2) then were interviewed ($M = 48.48$ min) about the influence of others on their own emotional states. The results will be discussed during the communication in relation to an individual's and a group's mutual influence.

Relations between interpersonal values and coping strategies in antarctic and sub-antarctic stations.

Caroline Assens (TAAF/IPEV Health Department, France)

Elisabeth Rosnet (INSEP, France)

Claude Bachelard (TAAF/IPEV Health Department, France)

The question of the psychological adjustment is particularly important when facing to an unusual and extreme environment. Antarctic winterers are confronted to hard weather conditions, but also to isolation, confinement and life in a small isolated group which enforce them to adjust to physical and social factors. Some of the adaptation mechanisms could be related to the athletes' adjustment in difficult conditions.

Previous results indicate that coping strategies and interpersonal values may vary during the winter-over and according to personal or psychosocial characteristics of the individuals.

The aim of this presentation is to explore the relations between the interpersonal values (or what the expedition members consider as important in their relationships to others), the choice of the coping



strategies used and the efficiency of the adjustment of the winterers.

The Vitaliano self-assessment questionnaire for coping (1985) and the Interpersonal Values Survey (Gordon, 1975, 1979) have been administered twice, at the beginning and at the end of the isolation period, in the four French Antarctic and Sub-Antarctic stations during four years. A winter-over adjustment quality rating has been completed by each station doctor at the end of the mission.

The results are still being processed and will be discussed in relation with previous knowledge in comparable situations within the theoretical framework of the transactional approach of stress (Lazarus and Folkman, 1984) which presents human adaptation as a complex and dynamic process.

The role of the interpersonal relationships in the transmission process during turn-over in Antarctic.

Aude Villemain (Laboratory of Applied Psychology (University of Reims, France)
Elisabeth Rosnet (INSEP, France)

The question of the information' transmission is often crucial to ensure a high level of performance, especially when the function is not a common one. For example, the transmission of knowledge between a national coach and his(her) successor is not easy to modelize.

As a direct link with the keynote dealing with the common psychological points between the adaptation in extreme environments and in top-performance sport, this presentation will focus upon the turnover phenomenon in the French Polar Antarctic base. Winterers live one year there, having either scientific functions (biologists, ornithologist, astrophysicians, seismologist, medical doctor, meteorologist, etc), either support functions (plumber, cook, baker, electrician, car mechanic, engine mechanic, radio officers, etc.). Although the functions are similar as in the usual society, the specific environmental living conditions transform the job in a rather new one. Thus, the question of the way the turnover is operated there could give some interesting informations for other situations in which very few people know really the job.

Methods consists in face to face interviews and direct observation done on site by a psychologist during the turn-over period. The data concerns the leaving and the arriving winterers for different positions. The role of the interpersonal relationships, including interaction and cooperation, will be specially explored. The results will try to identify procedural knowledge used by winterers and the way they communicate instructions to their arriving colleague. They will be discussed in comparison with other transmission's procedure like tutoring process.

Athletes' positive versus crisis transitions in top sport: the role of important others.

Nadine Debois (National Institute of Sport, Expertise and Performance, INSEP, France)

Sport careers are punctuated with normative as well as non normative transitions (Wylleman & Lavallée, 2004) that athletes have to face throughout their athletic lifespan. These transitions are related to athletic, psychological, social as well as academic and vocational athletes' development (Wylleman, Lavallée & Alfermann, 1999). Athletes in transition experience a natural instability in the perception of oneself (Schlossberg, 1981). The transition is termed positive transition when the athlete faces by himself and crisis transition when the athlete needs support to face (Sinclair & Orlick, 1993).

Many studies have emphasized the role of important others (e.g., parents, coaches, peers) for transitions' success (e.g., Côté, 1999; Durand-Bush & Salmela, 2002; Stambulova, Alferman, Statler, & Côté, 2009), particularly from the beginning of the career to the transition into the elite stage for one part, and during the transition into athletic retirement for another part.

This communication reports results from a study relied on the whole sport careers (i.e., from the beginning to the retirement) of elite athletes. This study emphasizes two main results: (1) important others differ according to both the time within the sports' career and the athletes' life experience and, (2) Important others may in turn play a supportive or constraining role depending on the time and the nature of transitions the athlete faces.



The interpersonal nature of sports coaching.

Organizer: Sophia Jowett (Loughborough University, UK)

Discussant: Sophia Jowett (Loughborough University, UK)

Effective coaching can be reflected in the quality of relationships key people like coaches and athletes develop within their teams and squads. It is these interpersonal relationships that could propel athletes and their coaches to performance accomplishments and a sense of personal satisfaction. Athletes are unlikely or increasingly difficult to produce top-level performances without the support of their coaches. Correspondingly, coaches and teammates are unlikely to be successful without the athletes' talent, passion and enthusiasm. In many cases, neither the coach nor the athletes can do it alone. Like any other type of dyadic relationship, the quality of such relationships as coach-athlete and athlete-athlete affects and is affected by a number of factors. This symposium provides an opportunity to explore such factors. The purpose of the first paper (D. Rhind) is to investigate how the quality of the coach-athlete relationship alongside strategies that enhance its quality associate with psychological well-being from an athlete's point of view. The second paper (J. Stebbings) aims to examine the mediating role of basic needs satisfaction between the coaching environment (coach roles and job opportunities) and coach-athlete interactions (supportive versus controlling) from a coach's point of view. The objective of the third paper (R. Antonini) is to explore how the ever-evolving character of coach-athlete relationships.

Predicting the psychological well-being of elite child athletes based on perceptions of their relationship with the coach.

Daniel J.A. Rhind PhD. - (Brunel University, UK)

Objectives:

It is now widely acknowledged that the coach plays a critical role in the life of an athlete. However, there remains a lack of research which specifically focuses on the impact of the coach-athlete relationship on elite child athletes. The limited research in this area has tended to investigate negative experiences such as emotional and sexual abuse. The present study takes a positive psychology approach to consider how this relationship is associated with the psychological well-being (PWB) of elite child athletes. PWB concerns people's perceptions regarding the extent to which they are in control of their lives, feel that what they do is meaningful and have good relationships with others.

Design and Method:

A questionnaire will be administered to at least 250 people. The inclusion criteria will ensure that they are all currently over the age of 18 but had competed at an elite level as a child. Ryff's (1995) measure of psychological well-being will be completed along with the Coach-Athlete Relationship Questionnaire (CART-Q; Jowett & Ntoumanis, 2004) and the Coach-Athlete Relationship Maintenance Questionnaire (CARM-Q; Rhind & Jowett, in press).

Results:

Hierarchical regression analyses will be conducted to explore the extent to which the quality of the coach-athlete relationship, and the use of relationship maintenance strategies, are associated with the psychological well-being of the elite child athletes.

Conclusions:

The research will highlight key messages for coaches, athletes, parents and National Governing Bodies and will have the potential to inform future coach education programmes.



Antecedents of coach perceived interpersonal behaviour: the coaching environment and coach psychological health.

J. Stebbings (Loughborough University, UK)
I. M. Taylor (Loughborough University, UK)
Christopher M. Spray (Loughborough University, UK)

Objectives:

Based on the self-determination theory (Deci & Ryan, 2000) framework, the present study explored how the coaching environment may impact upon coaches' perceived interpersonal behaviours towards their athletes, and whether this process was indirect via coaches' psychological health.

Design and Method:

In a cross-sectional design, coaches (N=356) completed measures of perceived job security, opportunities for progression and training, work-life balance, psychological need satisfaction and need thwarting, psychological well-being and ill-being, and perceived autonomy-supportive and controlling behaviours towards their athletes.

Results:

Structural equation modeling revealed that perceived levels of job security and opportunities to progress within the coaching role were positively related to coaches' psychological needs, whereas, opportunities to progress and work-life balance were negatively related to thwarting of coaches' needs. Need satisfaction positively predicted coaches' psychological well-being, which, in turn, positively predicted autonomy-supportive behaviours. In contrast, need thwarting positively predicted ill-being, which, in turn, positively predicted controlling behaviours. The data showed acceptable fit to this model: Sattora-Bentler $\chi^2(446) = 766.06, p < .001$; CFI = .91; SRMR = .06; RMSEA = .05 (90% CI = .04 - .05).

Conclusions:

The results contribute to the extant literature by suggesting that the coaching context can influence the coach-athlete relationship through two distinct mechanisms. Giving coaches opportunity to develop in a secure working environment may help coaches to psychologically thrive and interact positively with their athletes. In contrast, coaches who perceive a lack of opportunity to progress, and conflict between their coaching role and other life

From teacher to friend: the evolving nature of the coach-athlete relationship.

Roberta Antonini Philippe (University of Geneva, Switzerland)
Sam. S. Sagar (Leeds Metropolitan University, UK)
Sophie Huguet (University of Nancy, France)
Yvan Paquet (University of La Réunion, France)
Sophia Jowett (Loughborough University, UK)

Objectives:

The aim of the present study was to explore the nature and development of the coach-athlete relationship from the perspective of both an athlete and a coach.

Design and Method:

Two coaches (1 female and 1 male; aged 42 and 48, respectively) and eight elite level swimmers (competing at international level; 4 females and 4 males; Mage 18.6 years, SD = 3.1 years) from the Swiss National Swimming team were interviewed individually. Interviews ranged between 60 and 90 minutes and were audio-recorded. The athletes and their respective coaches had been working together for an average of 3.5 years.

Results:

Data analysis revealed that the coach-athlete relationship gradually evolved over time, and that three specific dimensions operated in the development of this relationship: (1) developing bonds; (2) developing co-operation; and (3) power relation.

Conclusions: The coach-athlete relationship occurs naturally and evolves over time. This evolution in the relationship is beneficial to the athlete's personal growth, mental strength, and athletic development. The study



enhances knowledge and has theoretical and practical implications for the coach-athlete dyad.

Development and initial validation of the coach-athlete attachment scale (CAAS).

Louise Davis (Loughborough University, UK)
Sophia Jowett (Loughborough University, UK)

Objectives:

The purpose of the present study was to outline the development and initial validation of the Coach-Athlete Attachment Scale (CAAS); a sport-specific self-report instrument designed to measure athletes' attachment styles.

Design:

The study was conducted in three stages. Stage 1 generated a pool of items, based on pre-existing attachment questionnaires. Stage 2 addressed the content validity of those items through a panel of experts. Stage 3 assessed the factorial structure of the items using Confirmatory Factor Analysis (CFA) and its concurrent validity using Structural Equation Modeling (SEM).

Method:

298 athletes of various levels and sports completed a self-report questionnaire that had been developed based on the generated findings of Stages 1 and 2.

Results:

The scale demonstrated sound psychometric properties of content and factorial validity, as well as good internal consistency. CFA revealed that a two-dimensional model representing the insecure attachment styles of anxiety and avoidance styles fitted the data satisfactorily. Additionally, SEM supported the criterion validity of the newly developed scale by demonstrating that athletes anxious and avoidant attachment styles were predictors of athletes' perceptions of relationship satisfaction.

Conclusion:

Results provide preliminary evidence of the validity and reliability of the Coach-Athlete Attachment Scale (CAAS) as a measure of attachment styles within the context of the coach-athlete relationship. Future cross-validation research to test further its psychometric properties is warranted. This new instrument has the potential to contribute to research of attachment in the coaching sports context, which is currently understudied yet theoretically important.

Individual perceptions of dyadic sport friendships as a function of self and partner attachment characteristics.

Sam Carr (University of Bath, UK)

Objectives:

To examine the link between adolescent-parent attachment relationships and experiences of friendship quality in the context of the Actor-Partner Interdependence Model.

Design and Method:

One hundred and ninety three male adolescents involved in team sports completed self-report assessments of relationship security with a key parental attachment figure and of the nature of their friendship with a nominated sporting best friend. In 40 reciprocal best friend dyads friendship quality perceptions were examined as a consequence of attachment characteristics of both the self and one's best friend.

Results:

Results provided evidence that the nature of the adolescent-parent attachment relationship was significantly related to sporting friendship experiences. More secure adolescent-parent attachment characteristics corresponded to more positive sporting friendships. Furthermore, adolescents' perceptions of the quality of dyadic sporting friendships were apparently constructed not only as a function of their own attachment characteristics but also of the attachment characteristics of their best friend.



Conclusion:

There is a suggestion that adolescent attachment relations with parents are of critical importance not only because they influence how adolescents themselves experience their sporting relationships but also because they influence how the relationship is perceived in the minds of their friends.

Integrating sport psychology and sports education: coach education and instructional processes.

Organizer: António Rosado (FMH / Universidade Técnica de Lisboa, Portugal)

Discussant: António Rosado (FMH / Universidade Técnica de Lisboa, Portugal)

Sport psychology and sports coaches are professionals concerned about the development of athletes with whom they work. Sport development, after all, is a process of growth and increasing competence assisted by coaches in daily training sessions. Sport coaches must possess some basic psychological competences to deal with their athletes, namely those that emphasise athlete's engagement, attention and retention of information. We need to develop educational programs and research agendas that will assist coaches to improve teaching skills based on ground psychological and pedagogical foundations. The symposium communications deals with some fundamental variables of sport development: sport engagement and instructional methods to enhance attention, comprehension and persuasion of the information in sport settings as well with coach perceptions about their psychological competences to deal with the psychological dimensions of their job.

Psychological competences in Volleyball training settings. Coaches' perceptions related to professional experience in male and female teams.

Patricia Coutinho (FADE, University of Porto)

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The Volleyball game has different characteristics for male and female, which may influence requested psychological skills in long-term developmental stages. The present study intended to examine the importance given by Volleyball coaches to some psychological competences according to their coaching experience in male and female teams in different long-term sport developmental stages. The psychological competences analyzed were: self-confidence, goal orientation, commitment, attention, refocusing and stress management. The study involved 79 Volleyball coaches. Five long-term developmental stages (Côté et al., 2003; Balyi, 2000) were analyzed: stage 1 (ages 6/8 - 12), stage 2 (ages 13-14), stage 3 (ages 15-16), stage 4 (ages 17-19) and stage 5 (ages +19). Data analysis procedure included a questionnaire with a five level Likert scale, based on empirical studies available in the literature and followed by an expert's validation procedure. One-Way ANOVA test was used to compare groups according to coaches' professional experience.

The less experienced coaches in male teams assigned more importance to goal orientation in early stages of sport development (1, 2 and 3) and to attention refocusing and stress management in stage 2, compared with more experienced ones. In turn, more experienced coaches in female teams gave less importance to self-confidence during stage 2, 3 and 4 of developmental process compared to other coaches. The intermediate experienced coaches assigned more importance to goal orientation in stage 4 than more experienced ones. Considering commitment, there were no differences over the five stages of long-term developmental stages for both groups.

Validation of the portuguese version of the athlete engagement questionnaire.

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Introduction:

Athlete engagement (AE) can be seen as a persistent, positive, cognitive-affective experience in sport that is characterized by confidence, dedication, and vigor (Lonsdale et al. 2007). Qualitative studies bring to a close that engagement is a concept of clear relevance to athletes. A greater understanding of AE experiences might



help coaches and sport psychologists to promote more positive sport experiences and develop effective burnout-prevention strategies (Lonsdale, C., K. Hodge, et al., 2007a). This study investigate the psychometrics properties of the Portuguese version of an athlete engagement scale first proposed by Lonsdale et al. (2007).

Methods:

Three hundred fifty seven Portuguese athletes (79.6% man and 20.4% woman) participated in the study. The mean age of the participants was 20.3 years. Forty one were professional, 71 semiprofessional and 245 amateurs. After forward-translations and back-translations with a bilingual expert panel of 4 judges, we used the Portuguese version of Athlete Engagement Questionnaire, AEQ, (Lonsdale, C. et al., 2007b), a five-point Likert scale (1 = "Almost never", 2 = "Rarely", 3 = "Sometimes", 4 = "Frequently", 5 = "Almost always") to indicate "How often felt this way in the past four months". In a pre-test of the instrument on the target population, athletes provided written feedback concerning the clarity of the instructions and items. They reported that the AEQ instructions and items were easy to understand. A Confirmatory Factor Analysis (CFA) was conducted using AMOS 17.0. Model validity was assessed ML method. Overall model fit was assessed using multiple goodness-of-fit indices. Traditional criteria (χ^2/df , CFI, TLI, and RMSEA) were adopted as indicators of adequate fit.

Results and Conclusions:

From a confirmatory factor analysis the model showed an adequate fit to the data: ($\chi^2/df=2.43$; CFI = .96, TLI = .95; RMSEA = .06). The composite reliability measures indicated that all constructs were below the recommend .7 (Hair, Anderson, Tatham, & Black, 1998). The average variance explained (AVE) values for all constructs used to measure athlete engagement did not exceeded the .50 cutoff (Fornel & Lacker, 1981). Furthermore, the results of the AVE test of discriminant validity (Fornel & Lacker, 1981) showed nondiscrimination problems in all constructs. A second order factor showed strong correlations among t first order factors (dedication = .75, confidence = .66, vigor = .86 and enthusiasm = .69) suggesting AEQ is valid and reliable for assessing athletes engagement.

Determinants of engagement in sport combats.

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Introduction:

Athlete engagement is described as a persistent, positive, cognitive-affective, experience in sport that is characterized by confidence, dedication, vigor and enthusiasm where confidence represents a belief in one's ability to attain a high level of performance and achieve desired goals, dedication is the desire to invest effort and time towards achieving goals one view as important, vigor a physical, mental, and emotional energy or liveliness and enthusiasm is characterized by feelings of excitement and high levels of enjoyment (Lonsdale, C., K. Hodge, et al., 2007a). The purpose of this study was to investigate the sport engagement levels and compare them considering athlete's gender, age, academic and competitive level.

Methods:

Three hundred fifty seven Portuguese athletes (79.6% man and 20.4% woman) participated in the study. The mean age of the participants was 20.3 years. Forty one were professional, 71 semiprofessional and 245 amateurs. We used the Portuguese version of Athlete Engagement Questionnaire (Lonsdale, C. et al., 2007b). We described data using descriptive statistics and compared the groups using the Anova two-way, with software SPSS 17.0. Post-hoc analyses for scale differences were carried out with Tukey's post hoc multiple comparisons.

Results and Conclusions:

Considering athletes gender, we found significant differences in athlete's engagement only in one factor, confidence. The results revealed that men presented higher confidence levels ($F(2,383) = 3.88$; $p = 0.033$). Significant differences were, also, found in engagement when age is considered; the youngest athletes revealed higher levels of dedication ($F(2, 383) = 4.36$; $p = 0.001$). Nevertheless, the oldest group revealed higher vigor ($F(2, 383) = 4.31$; $p = 0.001$) and enthusiasm ($F(2, 383) = 4.74$; $p = 0.001$).

The results showed also that athletes with higher competitive level (professionals) presented greater levels of



engagement in all factors ($F(2.383) = 4.53; p = 0.001$).

Athletes' retention of coaches' instructions during gymnastics training sessions.

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The present study analyzes the athletes' retention of coaches' instructions during gymnastics sessions. We intended to determine if the retention of information was influenced by the athletes' characteristics (age, gender, school level and practices level), the quantity of information of coach instruction (extension, number of ideas and number of different ideas) and athletes' perception of the relevance and acceptance of the information, task motivational level and athletes' attention level.

The study was developed in 12 Gymnastics sessions, involving 6 coaches and 193 athletes (79 males, 114 females), aged between 9 and 13 years old. Coaches' instructions were audio and video recorded. After that, athletes answered to a structured interview. All coaches' and athletes' interventions were transposed to written protocol and submitted to Content Analysis. Descriptive statistics and Multiple Linear Regression were conducted.

The results showed that a substantial part of the information was not retained by the athletes, only 31.6% of the information's was completely retained.

The Multiple Linear Regression showed that the model was significant and explains 20.9% of the coherency variance. Three variables, with a statistical significant value, were found: the athletes' practices level (athletes with a high practice level had lower values of coherency), the level of attention that athletes gives to coaches' feedback (when athletes had a high level of attention to coaches' information, the coherency of information was higher) and the number of different ideas transmitted by the coach (when the number of transmitted ideas decreases, the coherency of information increases).

ISSP Symposium - topics in the future sport psychology.

Organizer: Sidonio Serpa (Technical University of Lisbon, Portugal)

Discussant: Dieter Hackfort (University AF Munich, Germany)

One of the main ideas of the International Society of Sport Psychology when it was founded in 1965 by Ferruccio Antonelli, in Rome, was to stimulate the development of this science and the cooperation among practioners and researches. In fact, by the end of the 19th and beginning of the 20th century some publications already suggested interest in sport psychological topics such as motor learning, performance enhancement and constraints, psychological consequences of sports activities, or psychological bases of motor behavior. The authors were mainly from Russia, Germany, France and Unites States of America. In 1913, in Lausanne, Pierre de Coubertin organized the first International Congress of Psychology & Physiology of Sport. The topics aimed at discussing the psychological benefits of sport, the psychological characteristics of athletes, and performance enhancement. For many years sport psychology followed this mainstream although the exercise psychology topics became very strong by the end of the 20th century as a new main trend. Currently, sport psychology expanded to new areas, as a result of its own development as well as social and technological evolution. Following the ISSP mission of anticipating the future and stimulating new approaches, the goal of this symposium is to discuss how SP may adapt to new social demands and use new technological tools. The leisure management industries as a new working field, the social psychological aspects of increasing international mobility of sportspeople, neurofeedback training and virtual reality as performance enhancement tools are the topics included in this symposium.

The role of sport psychology in leisure management industries.

Antoinette M. Minniti (Nottingham Trent University, UK)

The role of sport psychology (SP) has traditionally been deemed synonymous with performance enhancement and, thus, the general public has often associated SP with elite athletes and/or high performance environments. Leisure management industries are normally linked to outdoor and recreational activities, and as such have tended to reflect the interests of individuals who are at a different point on the participant spectrum to



highly competitive athletes. More recently, SPs are increasingly being seen to provide valuable contributions to the wider community, and the application of their skill sets is recognised as being as equally relevant for areas such as leisure, outdoor, and recreational activity, as they are for professional sport. This presentation will outline the ways in which sport psychology can positively influence leisure management industries, both in terms of the organising bodies and structures that ensure delivery of the services, and also with respect to the client or user end for whom the services are designed. Current examples that will be discussed include the role of SP for London 2012 - for example, in light of the legacy and grassroots developments that arguably form the core as well as the periphery of the elite sport focus of the Olympic Games - and the leisure and fitness industry where increasing and maintaining participation are key drivers for economic, social, and health agendas.

Keywords: Leisure, management, recreation, performance enhancement

The lived transnationalism: rapture or rupture?

Tatiana V. Ryba (Aarhus University, Denmark)

Most reports examining European mobility policy focus on practical barriers to mobility, such as language, finance, labour market and recognition of qualifications. Less attention is given to understanding how social and cultural discourses trickle down into lived experiences of the mobile subject. In a society increasingly marked by migration, cultural and economic globalization, diaspora, and interconnectivity, athlete's subjectivity is not bound to traditional categories of nation, race, ethnicity, etc but being constantly redefined through the liquidity of transnationalism. In this presentation, I examine the publicized cases of the migrations of highly skilled athletic workers to suggest the utility of transnational theory in gaining insights into the production of mobile identities. I am particularly interested in analyzing the interplay of identity and experience at various sporting milieus. The dynamic interplay can be seen, on the one hand, as a coherent process and revelation, RAPTURE (e.g., I run, I feel connected to God/nature/Universe/higher power, I feel joy, running is meaningful to me, running is an essential part of my being, I am a runner). On the other hand, the interplay of identity and experience becomes meaningful at the site of RUPTURE, revealing the contradictions and the gaps of coherence in a new cultural landscape. Understanding the processes underpinning the production of transnational subjectivity might become a fulcrum of cultural psychological research in the years to come.

Effects of neurofeedback training on competitive mental state and golf putting performance.

Shih-Chun Kao (Department of Physical Education, National Taiwan Normal University, Taiwan)

Tsung-Min Hung (Department of Physical Education, National Taiwan Normal University, Taiwan)

The purpose of this study was to determine whether frontal midline theta neurofeedback training (NFT) improves golf putting performance as well as self-reported measures of competition-related mental states. An idiographic, single-subject, multiple baselines, across-subjects design was employed. The rationale for such an approach was largely centered upon the work of Patrick and Hrycaiko (1998), who indicated that single-subject designs were the most appropriate methodology for applied research. The participants in this study were three male elite golfers who were asked to complete eleven sessions, ten putts per session, of putting performance. Competition-related mental states, measured by the Competitive State Anxiety Inventory-2 (CSAI-2), Competitive Mental State Scale, and Practical Assessment Questionnaire, were assessed before and after NFT intervention for each participant. The results showed that all three participants improved in their putting performance. Two of the participants who had relatively greater improvement experienced an increase in self-confidence and a decrease in cognitive anxiety but no changes in cortical activities. The participant with relatively less improvement experienced a decrease of confidence, an increase of cognitive anxiety, and was able to alter their cortical activities. In addition, participants indicated that the intervention contributed to better focus and self-control. It may thus be deduced that NFT intervention benefits athletic performance, the perception of self-confidence, and cognitive anxiety. However, the relationship between NFT and the amount of performance improvement is possibly modulated by self-confidence and cognitive anxiety. The methodological concerns and possible mechanisms of NFT are discussed in this paper.

Keyword: neurofeedback training, golf putting, self-confidence, cognitive anxiety



New technologies in sportpsychology.

Thomas Schack (CITEC - Bielefeld University; Germany)

Andre Krause (CITEC - Bielefeld University; Germany)

Christoph Schuetz (CITEC - Bielefeld University; Germany)

In the last 20 years new technologies like for instance Virtual Reality, Augmented Reality and Neurotechnology were developed in such areas like military service, medicine, sport- and neuropsychology. As would be expected, areas like sport psychology research and applied sportpsychology will take advantage of these technologies. Virtual reality (VR) is a technology which allows a user to interact with a specific computer-simulated environment (for instance a golf course). New simulations include additional sensory information, such as sound, proprioceptive or tactile feedback. With the help of advanced Augmented Reality (AR) technology (e.g. real time feedback for motor action) the information about the surrounding real world of the user becomes interactive and digitally usable. So AR makes our environment richer in terms of feedback and creates a mixed reality between our environment and a movement related, computer generated feedback. Neurotechnologies (NT) are different technologies used to improve performance of athletes, patients or normal people based on information about the individual neurocognitive status of the subjects (via cognitive or neurophysiological measurements). Sportpsychology opens up special opportunities to use, test and improve such technologies to make research oriented and applied fields of sportpsychology more visible and more attractive for athletes, other disciplines and institutional investors. Because there has been an increasing interest in the potential social impact of new technologies, such as virtual reality, we could argue that new technologies will lead to a number of important changes in human life and activity.

Perception in action: The mediating role of perception in elite performance.

Organizer: Johan Koedijker (University of Bern, Switzerland)

Discussant: Rouwen Canal-Bruland (VU University Amsterdam, Netherlands)

Human action is designed to attain specific goals and to do so it has to meet the demands of a very dynamic environment. Thus, cognition should be viewed as adaptive action rather than detached thought and is, as such, dependent on the bodily properties of the actor and the social-affective context. Consequently, also perception must be studied and understood not solely in terms of optical and ocular-motor processes, but in terms of how perception guides action in a world constrained by the bodily features of the performer, the to-be-performed task and its environment. In other words, perception is embodied as it relates the actor to its behaviour.

This symposium explores the link between perception and perceptual strategies on the one hand and behavioural constraints on the other hand. The first central theme within the symposium is the role of perception on the interface between action, cognition and the social-affective context, such as in decision making, implicit cognition and performing under increased anxiety in elite performance settings. A second theme within the symposium concerns the bidirectional relationship between expertise and the perception-action link. Within this theme, perceptual characteristics of expertise will be discussed and directions will be presented on how visual attention training can improve performance.

All in all, this symposium provides a broad overview of the mediating role of perception in performance and highlights the frontrunner position of sport psychology in exploring the boundaries of embodied cognition and perception.

Gaze strategies in performing defensive actions in beach volleyball.

J. Koedijker (University of Bern, Switzerland)

A. Klostermann (University of Bern, Switzerland)

O. Lienhard (University of Bern, Switzerland)

R. Kredel (University of Bern, Switzerland)

E.-J. Hossner (University of Bern, Switzerland)

Decision making in sports has been extensively studied for the last two decades, with a particular interest in differences in visual search strategies and movement initiation times between experts and novices. The current study expands this paradigm by identifying situation-, gender-, and expertise specific gaze strategies in



performing defensive actions in beach volleyball.

Sixty-four beach volleyball players (32 elite, 32 near-elite; 16 male and 16 female for each group) were presented with scenes of 3 different attacking variations ('Smash', 'Cut' and 'Line shot') projected on a 3x4m screen. The experimental set-up allowed participants to react as they would on court. Decision accuracy and movement initiation time were measured using a 10-camera-VICON-System (200 Hz). Furthermore, gaze behaviour (number, duration and location of fixations) were recorded using an integrated eye tracker (EyeSeeCam, 220 Hz).

First analyses show that elite players differ from near-elite players by having a higher percentage of correct decisions combined with a later movement initiation time. Apparently, elite players optimize the time available for information pick-up before initiating their defensive action. First results of algorithmically analysed gaze behaviour show a more anticipatory gaze strategy for the elite players, in particular to the positions of hand-ball contact by passer and attacker.

Gazing into space: Eye movements and discrimination of marginally off-center goalkeepers.

R. Masters (University of Hong Kong, HK)
Rebecca Rienhoff (University of Muenster, Germany)
Lennart Fischer (University of Muenster, Germany)
J. Schorer (University of Muenster, Germany)
J. Van der Kamp (VU University Amsterdam, Netherlands)
M. Wilson (University of Exeter, UK)

Masters, van der Kamp, and Jackson (2007) showed that even when a goalkeeper created a space difference as small as 0.5% (in space between the two sides/total space x 100) when standing in a goal-mouth, penalty-takers could discriminate which side had more space at reliably above chance levels, despite believing that they were guessing. Additionally, at differences of up to approximately 3.0%, penalty-takers directed more kicks to the side with more space without being conscious that the goalkeeper was standing marginally off-center. Remarkably, despite the many factors that can influence penalty-kick direction in the real world, examination of video clips of penalties taken during international competitions (e.g., the World Cup) showed that when goalkeepers stood marginally off-center (mean 2.9%), penalty-takers directed kicks to the side with more space more than would be expected by chance.

The interaction between awareness and gaze during discrimination of marginal space differences has not been investigated. In two experiments, we assessed patterns of gaze behavior when participants were required to discriminate marginal differences in the space on either side of a goalkeeper. In both experiments, participants were able to detect differences as low as ~0.3-0.4% at above chance levels, despite reporting that their decisions were guessed; however, uniform patterns of gaze were only present when participants became confident that they were not guessing. We show, for the first time, that accurate discrimination of marginal differences in space that are registered below consciousness and without differentiated gaze behavior, can be exploited by decision-makers during penalty-taking.

Shoot or don't shoot? why police officers are more inclined to shoot when they are anxious.

A. Nieuwenhuys (VU University Amsterdam, Netherlands)
G. Savelsbergh (VU University Amsterdam, Netherlands)
R. Oudejans (VU University Amsterdam, Netherlands)

We investigated the effect of anxiety on police officers' shooting decisions. 36 police officers participated and executed a low- and high-anxiety video-based test that required them to shoot or not shoot at rapidly appearing suspects that either had a gun and 'shot', or had no gun and 'surrendered'. Anxiety was manipulated by turning on (high-anxiety) or turning off (low-anxiety) a so-called 'shootback canon' that could fire small plastic bullets at the participants. When performing under anxiety, police officers showed a response bias towards shooting, implying that they accidentally shot more often at suspects that surrendered. Furthermore, shot accuracy was lower under anxiety and officers responded faster when suspects had a gun. Finally, since gaze behavior appeared to be unaffected by anxiety, it is concluded that when they were anxious, officers were more inclined to respond on the basis of threat-related inferences and expectations rather than objective, task-relevant visual information.



Functionality of quiet eye - testing quiet eye duration as independent variable.

A. Klostermann (University of Bern, Switzerland)
R. Kredel (University of Bern, Switzerland)
J. Koedijker (University of Bern, Switzerland)
E. J. Hossner (University of Bern, Switzerland)

Vickers (2007) concluded that a stabilized gaze pattern (Quiet Eye) before and during movement execution mediates both inter- and intrapersonal level of performance. However, from a theoretical perspective further insights explaining these benefits are still needed. A first step was taken by testing Quiet Eye (QE) as independent variable.

Twenty participants threw in a within-subject design balls on a virtual target disk projected on a screen 3m away. The target had to be visually tracked and had to be hit after appearing in the final position. In two conditions absolute presentation time of the visual stimuli was kept constant but was presented either for a shorter (SF) or a longer (LF) duration at the final position. As throwing movement was externally paced using auditory stimuli, we were able to independently manipulate QE duration while standardizing movement execution. Gaze behaviour and throwing performance were measured using a 10-camera VICON System (200 Hz) and an integrated eye tracker (EyeSeeCam, 220 Hz).

First results show that while QE duration differed significantly between the two conditions ($t_{19} = 9.25, p < .0005$) throwing performance remained constant ($t_{19} = .010, p = .99$). Furthermore, post-hoc analysis revealed that participants had a significant longer QE duration for hits than for misses in the LF condition ($t_{19} = 2.84, p = .01$) but not in SF condition ($t_{19} = -.045, p = .96$). Together, these findings suggest that QE appears to be a self-organized phenomenon and needs a certain minimum time to become effective.

The role of calibration in learning to aim a golf putt.

W. Van Lier (VU University Amsterdam, Netherlands)
J. Van der Kamp (VU University Amsterdam, Netherlands)
G. Savelsbergh (VU University Amsterdam, Netherlands)

In a series of studies, we assessed how golfers cope with the frequently observed systematic errors in the perception of the direction between the ball and the hole. First, we required participants to rotate a pointer such that it pointed to the centre of the hole, and found that the errors in perceived direction are destroyed when the head is constrained to move within a plane perpendicular to the green. Secondly, we compared these errors in perceived direction with directional errors in putting both for novice and skilled golfers. Unlike the perceived direction, putting accuracy was not affected by head position. Novices did show a rightward putting error, while skilled players did not. Possibly, the skill-related differences in putting accuracy reflect a process of recalibration. This was assessed in a final study, in which we provided novice golfers with feedback about their perceptual errors, and examined to what degree this also decreased errors in putting.

Gaze training improves performance in a virtual reality laparoscopic surgery task.

M. Wilson (University of Exeter, UK)
S. Vine (University of Exeter, UK)
R. Masters (University of Hong Kong, HK)
J. McGrath (Exeter RD&E NHS Foundation Trust, UK)

The aim of the current study was to examine the utility of a gaze training intervention in protecting technical laparoscopic skills under distracting multi-tasking conditions. Thirty medical trainees with no laparoscopic experience were divided randomly into one of three treatment groups: A gaze training (GAZE), a movement training (MOVE), and a no-instruction (CONTROL) group. The GAZE and MOVE groups watched a video model revealing expert gaze control or tool control respectively, and received matched video feedback on subsequent attempts. Participants were fitted with a Mobile Eye gaze registration system, which measures eye-line of gaze at 25Hz. Training consisted of ten repetitions of an 'eye-hand coordination' task from the LAP Mentor VR laparoscopic surgical simulator. After training, all participants completed a retention test (designed to assess learning) and a transfer test, in which they completed the procedure while performing a concurrent tone counting task. The results revealed that the GAZE trained group completed the task more quickly in the retention test and did not show impaired performance under concurrent task conditions (cf. both other



groups). These results suggest that gaze training provides indirect benefits for the self-organization of motor skill (without direct coaching of the motor behavior), in a manner that may be less attentionally demanding. By focusing on a single external target, rather than on complex movement patterns, resources may be more efficiently applied to a concurrent cognitive task. As surgical performance relies on decision-making and judgement, as well as technical proficiency, this finding has interesting clinical utility.

Innovation in method & theory in sport and exercise psychology: getting out of the "so what?" quadrant.

Organizer: Mike Weed (Canterbury Christ Church University, UK)

Discussant: Iain Greenlees (University of Chichester, UK)

In debates about science, applied research is often contrasted with curiosity-driven research. However, Donald Stokes, in his book "Pasteur's Quadrant", suggests there is a third type, user-inspired research - research which seeks to develop new knowledge, but with an eye to its potential use. The problem is, research taking place in Pasteur's Quadrant has an opposite. Whilst research in a curiosity-driven quadrant rates high on fundamental understanding, and research in an applied quadrant rates high on considerations for use, and the user-inspired research in Pasteur's Quadrant rates high on both, activities in what might be called a "so what?" quadrant have little concern for fundamental understanding, nor for wide application or use. In short, such activities do not pass the "so what?" test because they tell us nothing new and have limited implications.

This symposium will explore the extent to which innovation in method and theory in various areas of sport and exercise psychology is sufficient to lift research out of the "so what?" quadrant. Firstly, Brett Smith explores the extent to which methodological innovation in qualitative research in sport and exercise is sufficient to generate genuinely new knowledge. Secondly, Martin Hagger examines how far innovative theoretical integration in motivational theory is leading to more user-relevant knowledge. Finally, Mike Weed discusses innovative translational research that has led to the development of applied knowledge that is informing policies and strategies to raise participation in sport.

Innovation and new knowledge in qualitative research methods: Sport and exercise psychologists as laggards, lemmings, or innovators?

Brett Smith (Loughborough University, UK)

Methodological innovation is a significant feature of 'mainstream' qualitative psychological research. But how methodologically innovative are sport and exercise psychologists? Answers to this question are vital. Innovation in research has increasingly been seen as a necessary part of ensuring the sustainability and respect of psychology within global knowledge economies. High quality journals are asking more and more for methodologically innovative work. Grant funders (e.g., ESRC) also increasingly invite, encourage and indeed insist on the demonstration of methodological innovation. Researchers who ignore innovation do so then at their peril. Ignoring innovation too risks our field becoming moribund.

This paper seeks to create a space for dialogue about methodological innovation in relation to the generation of genuinely new knowledge through qualitative research methods within sport and exercise psychology. What might constitute innovation is first considered. How methodologically innovative is sport and exercise psychology research is then discussed - is the field of qualitative sport and exercise psychology characterized by methodological laggards, lemmings, or innovators? A number of innovative methods that researchers for certain purposes might draw on are also suggested. Without wishing to discard traditional methods, the paper closes by proposing innovation in terms of methods requires not only creativity and risk-taking, but also the components of evaluation, informed choice, time, and deeper engagement with the broader qualitative literature

Innovative theoretical integration in sport and exercise psychology: advancing user-relevant knowledge.

Martin Hagger (Curtin University, Australia)

This presentation will provide contemporary views on integrative theoretical research in the field of exercise psychology with a view to furthering understanding of the psychological processes underpinning exercise



behaviour. I will argue that increasing theoretical parsimony by reducing redundancy and eliminating gaps in theories by demonstrating complementarity lead to more effective understanding of exercise behaviour. I will demonstrate that these theoretical advances also form the basis for intervention design to produce clinically-significant changes in exercise behaviour. I will present examples (conceptual, empirical, and meta-analytic) to illustrate the advantages of theory integration and how such integration offers a 'streamlined' but comprehensive view of the psychological processes that influence exercise behaviour. While the goals of parsimony and complementarity are desirable theoretically, they are also salient in terms of making knowledge relevant for users. Through the elimination of redundancy, integrated theories highlight the psychological variables that do most of the 'work' in the prediction of exercise behaviour. By demonstrating complementarity, integrated theories also provide more complete explanations of the processes leading to exercise behaviour. These variables and processes will be identified as targets for integrated theory-based interventions. I will give examples from frequently-used theories in exercise psychology such as the theory of planned behaviour (TPB), social cognitive theory, and self-determination theory (SDT) and demonstrate how integration has helped advance knowledge. I will report a meta-analysis examining how the TPB and SDT can be integrated to provide complimentary explanations of exercise behaviour. Finally, I will demonstrate how such theoretical integration has informed interventions to maximise exercise adherence.

Translating theory into applied knowledge: an innovative model of sport engagement to inform policy.

Mike Weed (Canterbury Christ Church University, UK)

Despite wide-ranging research on processes by which people engage with sport participation, the academic community has struggled to develop a model of the process of sport engagement that has been clear and comprehensive enough to be taken up by policymakers. Although the Transtheoretical Model (TTM) has gained some currency among policymakers, it has only been the concept that behaviour is changed in stages that has been adopted, not the more analytical aspects of the model that examine how and why people change their behaviour.

The TTM, the Theory of Planned Behaviour, and Self-Determination Theory have all been used by sport and exercise psychologists to try to understand how people are motivated to engage with sport participation. However, as explanations of the process of sport engagement they are incomplete because they do not consider barriers. Barriers have tended to be considered by sport and leisure management or health promotion researchers, but the models developed by such researchers are equally incomplete as they do not consider motivation.

This paper outlines innovative translation research that brings together theories of motivation with barriers based research to develop a model of the sport engagement process that is both comprehensive enough to provide complete explanations for behaviours, but also simple and intuitive enough to be adopted by policymakers. While previous models have been adopted for individual initiatives, this innovative model represents applied knowledge that fully escapes the "so what?" quadrant, as it is being incorporated into sport engagement policy in England at a national level.

Psychology of junior elite athletes.

Organizer: Attila Szabo (National Institute for Sport, Hungary)

Discussant: Attila Szabo and Attila Velenczei (National Institute for Sport, Hungary)

The investigation of psychological skills of young elite athletes is a shallow area of research in the field of Sport Psychology. The low motivation for work in this area could be attributed to access and recruitment of junior elite athletes and to ethical issues concerning research with youngsters. In 2002, the government has established a sport talent care programme under the name of "Heracles". The aim of this programme is to identify, test, select, and manage talented young athletes between 14-23 years of age whose chances to participate in future Olympic events are realistic. In addition to physical training and monitoring, with cooperation of the sporting federations and consent from the athletes, parents, and coaches, psychological testing is also carried out within the programme. Our research team has conducted a series of studies with the athletes in the Heracles programme to investigate their psychological skills related to sporting performance. In the current symposium four of these studies are presented. The first within-subjects inquiry investigates the psychological changes that occur over one year in elite junior soccer players. The second study



examines psychological traits, like extraversion and neuroticism, and their linkage to several sports-related psychological skills. The third work compares sports-related psychological measures in five junior age groups. Finally, the fourth study scrutinizes the primary reason for career termination among young elite athletes. The results of these inquiries add significant new information to the better understanding of psychological skills in young elite athletes.

Psychological changes over one year in young elite soccer players.

Attila Szabo (National Institute for Sport, Hungary)
Attila Velenczei (National Institute for Sport, Hungary)
Árpád Kovács (National Institute for Sport, Hungary)
Tamás Szabó (National Institute for Sport, Hungary)

Several psychological changes, as consequence of skill acquisition, experience, as well as maturation, could be expected in young elite athletes. The knowledge about such changes has immediate applied values for coaches and Sport Psychologists. In this study we have tested 46 young male soccer players, one year apart, who participated in an early summer training camp for elite junior athletes in 2009 and again in 2010. Using the Sport Competition Anxiety Test (SCAT - Martens, Vealey, & Burton, 1990), the Task and Ego Orientation in Sport Questionnaire (TEOSQ - Duda & Nicholls, 1989), the Wong and Law Emotional Intelligence Scale (WLEIS - Wong & Law, 2002), and the Sport Motivation Scale (SMS - Pelletier et al., 1995) the youngsters were examined on 10 dependent psychological measures including competitive anxiety, task- and ego-orientation, four measures of emotional intelligence, amotivation, intrinsic motivation and extrinsic motivation. The data analysis performed with repeated measures multivariate analysis of variance (RM-MANOVA) yielded a significant multivariate effect, which was followed up with univariate tests. These analyses showed that competitive anxiety decreased while task orientation increased significantly, and there was a trend towards a decrease in using emotions to facilitate performance and a weaker trend pointing to increased motivation. These results demonstrate the plasticity in psychological traits of young elite athletes. Consequently, the assessment and follow up of psychological changes in sport talent care programs appears to be warranted in conjunction with the monitoring of motor skills and performance.

Higher extraversion scores are linked to better psychological skills in elite junior soccer teams.

Attila Velenczei (National Institute for Sport, Hungary)
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Extraversion is a trait through which the individual could optimize the level of arousal, which in turn is connected to athletic performance. It is known that team participants exhibit greater extraversion than individual sport participants or non-participants (Eagleton et al., 2007), but it is unknown how extraversion is associated with other psychological skills essential in team sports, especially in elite junior athletes. In this questionnaire -based inquiry 144 young males (aged 13.5 SD±0.5 years) were tested. They participated in a national training camp for elite junior soccer players. Using the 12-item Eysenk Personality Inventors (Eysenk & Eysenk, 1964) measures for extraversion and neuroticism were obtained. A median split of the former served for a posteriori grouping. The two groups were compared on competitive anxiety, task- and ego-orientation, four measures of emotional intelligence, neuroticism, amotivation, intrinsic-, and extrinsic-motivation. Data analysis was performed with a multivariate analysis of variance (MANOVA), which yielded a statistically significant multivariate main effect for the high and low-score extraversion groups ($p < .001$). Univariate follow-up tests revealed that the former group scored significantly higher on understanding, using, and directing emotions, as well as on intrinsic motivation, while also showing a trend towards higher task orientation ($p = .055$) and extrinsic motivation ($p = .081$). The more extraverted group also showed significantly lower competitive anxiety, amotivation, and neuroticism. These results suggest that extraversion may be a marker of several other sports-related psychological skills in young athletes.

Differences in the psychological skills of five age-groups in a cohort of elite junior athletes.



Zsuzsanna Liptai-Menczel (Semmelweis University, Hungary)
Attila Szabo (National Institute for Sport, Hungary)
Árpád Kovács (National Institute for Sport, Hungary)
Attila Velenczei (National Institute for Sport, Hungary)
Tamás Szabó (National Institute for Sport, Hungary)

In junior athletes maturation along with experience could make a difference in psychological skills. Although important in elite athletics for coaching practices and athletes' development, age-related differences were not examined to date. In the current study we have tested 331 young male soccer players, aged 13 (n=72), 14 (n=72), 15 (n=62), 16 (n=61) and 17 (n=64) years of age. Using the Sport Competition Anxiety Test (SCAT - Martens, Vealey, & Burton, 1990), the Task and Ego Orientation in Sport Questionnaire (TEOSQ - Duda & Nicholls, 1989), and the Sport Motivation Scale (SMS - Pelletier et al., 1995) the youngsters were examined on 6 dependent psychological measures, including competitive anxiety, task- and ego-orientation, amotivation, intrinsic motivation, and extrinsic motivation. The data analysis was performed with a multivariate analysis of variance (MANOVA), which yielded a statistically significant multivariate effect for age-groups. The follow up tests revealed that the significant differences occurred in four out of the six dependent measures, namely task-orientation, competitive anxiety, extrinsic- and intrinsic-motivation. Using Tukey's post-hoc comparisons, it was revealed that the younger age groups (13-14) exhibited more favourable psychological profiles (i.e. higher task-orientation, extrinsic- and intrinsic-motivation) than the older age groups (16-17). Clearly, these results are in the opposite than expected direction. Pressure to succeed, volume of training in addition to increasingly voluminous studying, may be among the reasons that could account for these findings.

Fear of injury: the main reason for career termination among successful junior elite athletes.

Árpád Kovács (National Institute for Sport, Hungary)
Attila Szabo (National Institute for Sport, Hungary)
Attila Velenczei (National Institute for Sport, Hungary)
Tamás Szabó (National Institute for Sport, Hungary)

Numerous successful young elite athletes fail to reach their potential because of premature termination of their sporting-career. In spite of this fact, little is understood about the reasons why young elite athletes abandon their sport. In an effort to shed light on this issue, a survey was conducted with over a thousand junior elite athletes who represented 21 Olympic sports. The majority of them have achieved notable success in competitions within their age group. The results of the survey show that young athletes invest substantial effort in their training, and in some sports youngsters aged 16-18 years train over 30 hours a week. While similar amounts of training were acceptable three decades ago, by both athletes and their parents, based on a survey performed then by the last author, current data indicate that today there is serious concern about such high volumes of training. The concern is not limited to the parents, because even the most successful athletes have considered early sporting-career retirement, before reaching to the senior level. The data clearly indicate that the primary reason in the consideration of career termination in young athletes could be related to injuries. In fact 50% of the studied sample has reported suffering some sort of major injury during their junior athletic career. These findings suggest that safety and injury-prevention should be considered carefully in the planning of training regimens of young elite athletes.

Assessment in sport psychology among Spanish athletes.

Organizer: Eva Maria Garcia-Quinteiro (University of Santiago de Compostela, Spain)
Discussant: Eva Maria Garcia-Quinteiro (University of Santiago de Compostela, Spain)

The evolution of knowledge in any field is intimately linked to the quality of the field's measures (Duda, 1998). In the actual venues of sport research has been emphasized and this fact reduces the distance between academic and applied practice. The advances of sport psychology in Spain are evidenced by the increase of theoretical and practical works. This symposium provides 4 studies of current sport psychology measures of attention, competitive anxiety and school-age sport. Paper 1 aims to compare the measurement of athletes' attentional style using psychophysiological records and self-reports. Skin conductance measures and the Test of Interpersonal Attentional and Style (Nideffer, 1976) were used to compare precision and team sports



attentional style. Paper 2 refers to a study designed to obtain evidence of internal validity for the Spanish version of the Revised Competitive State Anxiety Inventory-2 (CSAI-2R) using Confirmatory Factor Analysis with data from a sample of 7 different sports. In Paper 3, the aim of the study was to analyze the effect of the inequality of the match and gender differences in the number of fair play behaviors displayed in young football players. The method involved the analysis of behaviors related to fair play using a modified version of Fairplay in Football Observation Instrument (IOFF, Boixados, 1995). Finally, Paper 4 study how Fair Play attitudes relate to Fair Play behaviours among young football players, administering Fairplay Attitudes scale (Cruz et al., 1996) and using the modified version of IOFF (Boixados, 1995).

Attention in team and precision sports. Skin conductance and self-report measures.

Amparo Pozo (Centro Regional de Medicina Deportiva, Spain)
Brezo Cortes (Centro Regional de Medicina Deportiva, Spain)
Eva Garcia-Quinteiro (U. Santiago de Compostela, Spain)

The present study aims to compare the measurement of athletes' attentional style using psychophysiological records and self-reports. Skin conductance is a very sensitive psychophysiological measure of the sympathetic nervous system activity. It is also a good indicator of unspecific level of activation and of the attentional style, showing that team players have higher electrodermal activity than precision sports players. The Test of Interpersonal Attentional and Style (Nideffer, 1976) has also been frequently used to obtain an attentional profile. Athletes express the degree of attention they give to different situations. According to the model, to obtain high performance team players need a profile where attention towards the exterior predominates and it is directed to a wide number of stimuli. On the contrary, in the precision sports internal attention focus will predominate and it will be directed to a limited number of stimuli.

Seventy athletes, who compete in precision and team sports, complemented the Test of Interpersonal Attentional and Style. Skin conductance measures were also recorded during resting period and while they were asked to imagine their last competition and questioned about it. Results show in order to differentiate the attentional style between team and precision athletes, spontaneous responses of the skin conductance are better than self-report.

Confirmatory factor analysis of the Spanish version of the CSAI-2R.

Graciela Lois Rio (U. Santiago de Compostela, Spain)
Elena M. Andrade Fernandez (U. Santiago de Compostela, Spain)
Eva Garcia-Quinteiro (U. Santiago de Compostela, Spain)

Keywords: state anxiety, CSAI-2R, Confirmatory Factor Analysis, internal validity, psychometry

This study was designed to obtain evidence of internal validity for the Spanish version of the Revised Competitive State Anxiety Inventory-2 (CSAI-2R). The Spanish CSAI-2R is composed of 16 items measuring 3 conceptual dimensions: Somatic anxiety, Cognitive anxiety, and Self-Confidence. Its properties were analyzed with data from a sample of 520 athletes competing in 7 different sports. Confirmatory Factor Analysis, which was conducted with the LISREL 8.8 program using the Maximum Likelihood estimation method, provided support for the psychometric integrity of the hypothesized three-factor correlated model. Overall fit of the model was good with a value of .97 for Comparative and Non-Normed Fit Indexes, .052 for Root Mean Square Error of Approximation (with limits of .043 and .060 for the confidence interval at 90%), and .061 for the Standardized Root Mean Square Residual.

Gender differences and effect of match score in fair play behaviors of young football players.

Kepa Diez (U. of the Basque Country, Spain)
Itziar Alonso-Arbiol (U. of the Basque Country, Spain)

Gender differences in Fair Play attitudes of young footballers have been recently observed. Nevertheless, these differences have not been sufficiently addressed in actual behaviors of matches during the competition. Therefore, the aim of this study was twofold: a) to analyze possible gender differences in fair play behaviors, and b) to examine the effect of the inequality of the match in the number of fair play behaviors displayed in football matches. The method involved the analysis of behaviors related to fair play in 64 football matches (32



of each gender) using a modified version of Fairplay in Football Observation Instrument (Boixados, 1995). Based on this tool, Fair Play behaviours can be grouped into three broad categories: positive behaviours, negative behaviours, and contact faults. Age of participants was 14-16 years. Behaviors of each player (71 boys, 69 girls) were analyzed dividing the behaviours committed by each one by the time that he had played. Mean differences were calculated between boys' and girls' Fair Play behaviour rates, and between tight vs. non-tight matches. Boys showed a statistically significant higher amount of negative Fair Play behaviours than girls. We also found differences between tight matches and matches resolved by a gap of three goals or more, being more negative Fair Play behaviors on tight matches.

Relationships between fair play attitudes and behaviors in young football players.

Kepa Diez (U. of the Basque Country, Spain)

Itziar Alonso-Arbiol (U. of the Basque Country, Spain)

Due the worrying atmosphere that involves football, including anti fair play behaviours showed by participants of all categories, attention to the study of Fair Play attitudes among young football players has been lately increased. The extent to which Fair Play attitudes relate to actual Fair Play behaviors during the matches is still unknown. To fill this gap, we carried out the present study with a sample of 133 football players (67 girls and 66 boys), ages ranging from 14 to 16 at the regional level in Basque Country (Spain). Data of Fair Play attitudes were collected administering the Fairplay Attitudes Scale (EAF; Cruz et al., 1996) before training sessions. Three dimensions are assessed: Victory at any Price, Hard Play, and Diversion. Fair Play behaviors were taken from recorded matches of both genders (32 matches of each gender) using a modified version of Fairplay in Football Observation Instrument (IOFF, Boixados, 1995). Fair Play behaviours can be grouped into three broad categories: positive behaviours, negative behaviours, and contact faults. Gender differences on fair play attitudes were found. While boys were more oriented to Victory at any Price and Hard Play, girls scored significantly higher in Enjoyment. Medium-size and high correlations between negative attitudes (Victory at Any Price and Hard Play) and negative behaviors were found, as well as between positive attitudes (enjoyment) and positive behaviors. These results underline the importance of the attitudinal orientation to Fair Play to predict actual behaviors in the pitch.

Symposium 2 | Wednesday, July 13th | 14:30-16:00

Talent development in soccer: the player, the parent, the coach

Organizer: Matt Pain (Loughborough University, UK)

Discussant: Ian Taylor (Loughborough University, UK)

"I have a passionate belief that the key relationship in football is: player - parent - coach when you're dealing with young players. And if any part of that triangle breaks down then the player will underachieve." (Steve Highway, former Liverpool FC Academy Manager)

Building on a strong growth in research into talent development in soccer, the aim of this symposium is to explore each component of the 'athletic triangle'. The contributing papers focus respectively on the player, the parent and the coach. The session opens with a systematic review of all the factors associated with talent development in soccer (42 papers over 17 years). The second paper evaluates an education programme in sport psychology for parents at a professional academy in England. The third paper looks at coach learning and development with special reference to the Football Association's (FA) of England's new Youth Award (UEFA B-licence). Finally, the FA's integration of psychology into coach education is reviewed.

And to assess their contribution to the process through which psychology has been integrated into coach education and give specific examples of this process at work. The FA's Psychology for Football strategy was launched in November 2002. Its ongoing aim is to increase the awareness and application of sport psychology principles within clubs, academies, and national squads. Complementing the FA's long term education plan, coach education remains central to this strategy at both national, club and grass-roots levels. The introduction of football specific psychology courses, the establishment of a psychology research unit, and the integration of psychology into mainstream coaching awards have been key developments arising from the strategy. To date most of the focus has been on youth soccer and youth coaches. Although we feel good progress has been made



and coach education has benefitted from the integration of psychology, we hope to invite dialogue on how the translation of research to practice can be optimised within the unique culture of football.

The Player: a systematic review of psychosocial factors associated with talent development in soccer.

Adam Gledhill York College (Loughborough University, UK)

Chris Harwood (Loughborough University, UK)

The aim of this paper was to systematically review the literature on psychosocial factors associated with talent development in soccer. An extensive literature search was conducted using infotrac, science direct, informaworld, swetswise, SportDiscus and Psycinfo between October 2008 and February 2009. This was followed by a detailed sifting and screening process and subsequent bibliographic searches that yielded 42 papers spanning 17 years (1992 - 2009) that met the specific inclusion criteria. The key themes that emerged from the literature as being influential in the development of talented young soccer players were the relative age effect, gender, family, peer experiences, coaches, disabilities, psychological and perceptual factors, deliberate practice and psychological skills use. Based on the evidence in this review, future research should seek to address the methodological and measurement limitations highlighted through the discussion through the use of longitudinal, prospective and developmental approaches to research. Furthermore, applied intervention research is required with adolescent soccer players so that practitioners have a depth of information on which to base their professional practice

The Parent: evaluating a parent education programme in a soccer academy.

Nicola Clarke (Loughborough University, UK)

Chris Harwood (Loughborough University, UK)

This presentation offers a review of a sport psychology education programme delivered to parents of elite young footballers aged 8 to 13, from English professional football clubs.

The intervention comprised a series of group workshops, designed to inform parents about the importance of psychosocial skills, both for progression in sport and for their child's overall development, and to explore parents' role in developing these attributes in their sons.

The content and structure of the sessions, along with good practice and lessons learned from working with this unique yet influential group will be discussed.

The Coach: understanding coach learning and education.

Anna Stodter (Loughborough University, UK)

Chris Cushion (Loughborough University, UK)

Coaches' significance in athlete skill development has sparked recent interest in improving the quality of coach education. Formal training has been criticised since coaches are known to value a range of less formal learning opportunities (e.g. Cushion et al., 2003). Nevertheless, only one study has directly assessed the impact of a coaching course on an attendee's knowledge and practice (Gilbert & Trudel, 1999), and there is insufficient evidence elucidating how coaches learn to be effective practitioners. The current research tracks groups of coaches through their education on the Football Association of England's (FA) new Youth Award. Using multiple methods including participant observation, think aloud stimulated recall interviews, and participant journals, we aimed to evaluate coach learning and FA course operation. The study aims to improve on popular 'expertise' approaches to understanding learning by taking situational and interpersonal aspects of coaching into account when assessing changes in cognitive processes and coaching behaviours over time. Some initial findings on the structure, design and delivery of FA coach education courses will be presented, and linked to tenets of effective education delivery and adult learning principles. Inferences are intended to guide future programme improvements, with the ultimate aim of producing more effective coaches to play positive roles in youth player development. The research as a whole will also benefit the wider coaching and psychology literatures in testing and refining theories of professional learning and expertise.

The Coach: integrating sport psychology into coach education.



Matt Pain (Loughborough University, UK)

The aim of this paper is to describe the process through which psychology has been integrated into coach education and give specific examples of this process at work. The FA's Psychology for Football strategy was launched in November 2002. Its ongoing aim is to increase the awareness and application of sport psychology principles within clubs, academies, and national squads. Complementing the FA's long term education plan, coach education remains central to this strategy at both national, club and grass-roots levels. The introduction of football specific psychology courses, the establishment of a psychology research unit, and the integration of psychology into mainstream coaching awards have been key developments arising from the strategy. To date most of the focus has been on youth soccer and youth coaches. Although we feel good progress has been made and coach education has benefitted from the integration of psychology, we hope to invite dialogue on how the translation of research to practice can be optimised within the unique culture of football.

Mental routines affecting perceptions, attention and performance.

Organizer: Gershon Tenenbaum (Florida State University, USA)

Discussant: William Edmonds (Nova Southeastern University, USA)

A series of studies aimed at expanding the physical effort-exertion-attention and the pre-routine-performance linkages was carried out independently. In each study participants perform either a strength-endurance or an aerobic task until voluntary exhaustion. A battery of tests was administered prior, during, and immediately after tasks' completion to examine the contentions that (a) participants experience feelings of low self-efficacy and anxiety prior to engaging in high effort-related task, and these have an effect on subsequent task performance, (b) attention shifts from dissociative to associative mode as effort sensations signal increasing effort, and (c) attention shift from dissociative to associative mode can only be altered to a certain degree through the use of imagery, olfactory or manipulation or attendance to auditory stimuli (i.e. music). The presence of these modalities helps perceptions of effort to be modified and results in higher adaptation to effort demands. The results of these studies shed light on the underlying mechanisms of coping with physically aversive sensations. Innovative methods for improved coping with perceptions of physical effort are suggested. Finally, two studies were conducted to examine the effectiveness of motor and cognitive pre-performance routines when learning self-paced motor skills in tennis (Study 1) and golf (Study 2). It was concluded that it may be more beneficial for beginning tennis and golf players to perform preparatory routines in which the emphasis is placed on motor preparation rather than on cognitive preparation.

The effects of pleasant odors on performance during an exertive task.

Itay Basevitch (Florida State University, USA)

Brooke Thompson (Florida State University, USA)

Robyn Braun (Florida State University, USA)

Selen Razon (Florida State University, USA)

Guler Arsal (Florida State University, USA)

Umit Tokac (Florida State University, USA)

Edson Medeiros Filho (Florida State University, USA)

Tonya Rasor Nascimento (Florida State University, USA)

Gershon Tenenbaum (Florida State University, USA)

The growing health concerns related to sedentary and over-weight populations has triggered researchers to investigate methods of improving exercise habits. Most studies have focused on promoting a pleasant exercise environment with the use of visual and audio stimuli. However, few studies have examined the effect of olfactory stimuli on exercise related variables (e.g., exertion and attention). Thus, the current study investigated the effect of odors (i.e., lavender and peppermint) on perception of exertion (RPE) and attention allocation, while performing an exertive task (i.e., handgrip task). Participants were randomly assigned to one of 4 groups: control, placebo, lavender, and peppermint, and performed at 30% of their maximum squeezing level for as long as they could. RPE, attention, smell intensity and affect ratings were recorded. Although findings did not reveal significant differences among the groups on RPE, attention allocation, and total time



duration on the task, statistical differences were found between both odor groups and the placebo group on ratings of perceived attention diversion, with the lavender group reporting the highest degree of attention diversion. The results suggest that odors may have an effect on cognitive processes while performing exertive tasks. Furthermore, findings have implications to the exercise environment, because olfactory stimuli can be used to divert individuals' attention from the effort sensations, promoting a more enjoyable environment and a stronger adherence to exercise habits.

Pre-task and during-task music has a positive influence on wingate anaerobic task performance.

J. Hutchinson (Springfield College, USA)
Todd Sherman (University of Tennessee at Martin, USA)
G. Tenenbaum (Florida State University, USA)

The effect of motivational music on Wingate anaerobic task (WAnT) performance was investigated in physically active male and female participants. Participants completed the WAnT under two conditions: music and no-music. In the music condition participants listened to a pre-selected motivational track during the acceleration phase and testing phase of the WAnT. The music used was selected based on participant responses to the BMRI-2 (Karageorghis et al., 2006). WAnT performance was based on peak power output, mean power output, and rate of fatigue. A scale questionnaire was used immediately after the trial to assess participants' level of motivation, exertion, and affect. Results indicated that peak power and mean power were significantly higher with music than without, although rate of fatigue was not. In addition, participants reported increased motivation and more positive affect in the music condition as opposed to the non-music condition. Perceived exertion was unaffected by music. We conclude that music can have a positive influence over WAnT performance, most significantly during the initial burst of effort. This effect may be due to enhanced task motivation and affect.

Differential imagery effects on perceived pain and task adherence.

Selen Razon (Florida State University, USA)
Itay Basevitch (Florida State University, USA)
Edson Filho (Florida State University, USA)
William Land (Florida State University, USA)
Brooke Thompson (Florida State University, USA)
Marie Biermann (Florida State University, USA)
Gershon Tenenbaum (Florida State University, USA)

The current study aimed at investigating differential imagery effects on perceived pain and task adherence during a dynamometer squeezing task. The effects of (1) associative and (2) dissociative imagery interventions were measured on reported ratings of perceived exertion (RPE) and task adherence timelines. Sixty healthy, adult participants (Mage = 22.19 years) were randomly assigned to three groups (1) associative imagery, (2) dissociative imagery, and (3) control (non-imagery). Participants performed a 30% maximal handgrip squeezing task until volitional fatigue. Throughout the squeezing task, RPE and attention allocation were reported every 30 seconds. RM MANOVA revealed that (a) RPE increased linearly in both imagery and one control group as the effort output increased, (b) participants using either imagery reported lower RPEs than participants using no imagery (i.e., control), and (c) participants using either imagery adhered the task longer than participant using no imagery (e.g., control). While the descriptive results supported the aiding effects of imagery use on RPE and task adherence, not all results were significant. Future studies ought to examine the effects of imagery use for tasks of varying workload intensities. Negative affective responses to physical activity remain among the important predictors of activity dropout. Consequently, findings may help design interventions to help increase positive affective responses associated with the physical activity in the general population.

Motor and cognitive pre-performance routines in learning self-paced tasks in tennis and golf.

Ronnie Lidor (Wingate Institute / University of Haifa, Israel)
Asaf Ohayon (University of Haifa, Israel)
Inbal Perry (Wingate Institute, Israel)

Two studies were conducted to examine the effectiveness of motor and cognitive pre-performance routines



when learning self-paced motor skills in tennis (Study 1) and golf (Study 2). Each study was composed of two phases - observational and experimental. In Phase 1 of Study 1, observational and verbal data were collected on elite male Association Tennis Players (ATP) ($n = 6$) to determine their patterns of motor behavior before serving the ball. In Phase 2, beginning players ($n = 45$) were taught two variations of pre-performance routines while learning the serve in tennis: a motor (MR) and a cognitive-emphasized (CR) routines. The MR was developed based on the observational data obtained in Phase 1 of Study 1. The CR was developed based on findings from previous studies on learning strategies and attention strategies. The routines were compared to a control condition. Findings in Phase 1 indicated that the tennis players used approximately 17.7s to prepare for their first serving attempt, and only about 6s to ready themselves for the second serving attempt. Bouncing the ball was the most frequently used routine (in 89% of the serves). Findings of Phase 2 revealed that the MR learners were more accurate in their serves than the CR and control learners in both the acquisition and retention phases.

A similar research design was used for Study 2. In Phase 1, observational and verbal data were collected on female and male golf players ($n = 52$) who participated in an international golf tournament held in Israel in the summer of 2009 to examine patterns of motor behavior before hitting the ball. In Phase 2, beginning players ($n = 60$) were taught both a MR and a CR. Findings of Phase 1 revealed that the golf players used about 21s before putting the ball and about 26s before swinging the ball. They were standing next to the ball, performing a number of practice trials, and looking at the target. In Phase 2 it was revealed that the MR learners were more accurate putting than the control learners in the retention phase. It was concluded that it may be more beneficial for beginning tennis and golf players to perform preparatory routines in which the emphasis is placed on motor preparation rather than on cognitive preparation.

Recent advances in movement rehabilitation: the contribution from sport and exercise psychology.

Organizer: Paul Holmes (Institute for Performance Research, MMU, UK)

Discussant: Paul Holmes (Institute for Performance Research, MMU, UK)

Individuals at all stages of life can experience motor dysfunction. Stroke is a major concern primarily in the elderly and, with the increasing aging population across the world, the incidence of motor dysfunction from stroke is now a significant concern for health providers. In contrast, Developmental Coordination Disorder (DCD) is a motor disability affecting 5% of 20 school-aged children, with 2% severely affected (Zoia et al., 2006). Children with DCD have difficulties performing simple motor skills and this impairs on their routine of daily life. In recent years, however, clinicians working across the life-span have approached the cognitive neurosciences to inform and optimise their rehabilitation practice.

The discipline of sport and exercise psychology has a strong history of research in physical practice and motor skill learning. In addition, the contribution of 'mental practice' or imagery to the learning and performance of motor tasks has also received considerable attention. Surprisingly, therefore, this research has shown limited impact in the clinical motor learning and rehabilitation literature or their practice. Here, we propose that the combination of research knowledge from cognitive neuroscience and applied sport and exercise psychology can significantly inform the motor (re)learning debate. We will focus primarily on stroke rehabilitation and developmental coordination disorder. The 6 papers will present findings from research studies in action observation, motor priming, and visuo-motor imagery. We will consider the implications for sport and exercise psychologists working with individuals affected by stroke, DCD in motor learning and other rehabilitation environments.

Key Background Information: Internal representations of movement have been proposed to comprise both imagery of movement and action observation since they include some of the same brain areas that are activated when movements are physically executed. These shared neural circuit have, in part, been referred to as the mirror neuron system (MNS). In relation to these findings, two proposed functions of MNS neurons are action understanding in others, and, predominantly in humans, movement imitation. While the role of the MNS in social interaction and communication remains hotly debated, there is more firm evidence for the role these neurons play in motor (re)learning, when actions are (re)learned via observing oneself and others.



Learning motor actions by action observation: the roles of the mirror neuron system and prefrontal cortex.

Stefan Vogt (Department of Psychology, Lancaster University, UK)

Satomi Higuchi (Department of Psychology, Lancaster University, UK)

In a series of brain imaging studies employing functional magnetic resonance imaging (fMRI), we explored the role of the mirror neuron system (MNS) in learning novel actions from visual demonstrations. Participants were scanned whilst they imitated unfamiliar hand actions (guitar chords). We found (i) that the MNS is indeed involved in imitation learning, (ii) that it is involved more strongly for novel actions than for familiar actions, and (iii) that the dorsolateral prefrontal cortex (DLPFC) was activated during imitation of novel actions. The DLPFC is a high-level control system which was likely engaging in restructuring the represented motor elements into a complete finger configuration.

In a further study we demonstrated that chords can also be learned by pure observation. Observational practice induced repetition effects in inferior parietal and premotor regions similar to physical practice. In addition, the involvement of DLPFC during observational and physical practice predicted behavioural benefits at the end of practice. These data open up an interesting avenue for optimising observational learning procedures in sport and rehabilitation of motor function.

Recently, we have studied the imitation of hand postures with imitating sequences of finger movements and rhythms. Whereas the sequences largely engaged the same cortical regions as the hand postures (MNS), the rhythms mainly activated the human expressive speech region ('Broca's area'). Thus, the primary cortical representation system can vary according to the type of action observed. In addition, DLPFC tended to be less activated for the rhythms than for the sequences and hand postures: one possible explanation is that rhythms are encoded in a specialised system which does not require less supervisory control than spatially oriented actions such as postures and sequences.

Using action observation for strength and dexterity exercise rehabilitation.

Martin G. Edwards (University of Birmingham, UK; Université Catholique de Louvain, Belgium)

Islam Salama (School of Sport and Exercise Sciences, University of Birmingham, UK)

Research shows that action observation and execution activate similar areas of the brain (Rizzolatti et al., 1996; Buccino et al., 2001) and, furthermore, that there is correspondence between observed muscle responses and human motor cortex activity (Alaerts et al., 2010; Loporto et al., in press). On the basis of these findings, we were interested in whether the observation of action force could be used to prime executed force and dexterity responses. In the first part of the presentation, we report behavioural evidence that the observation of actions involving difference force or muscle activity lead to changes in participant strength and dexterity responses (Salama et al., in press). We follow up these findings by discussing data that tested how brain activity (in fMRI) was modulated by observation of force action conditions. In the final part of the presentation, we present data from single-case hemiparesis participants (i.e., with reduced limb function as a result of a contralateral brain lesion) and demonstrate the effects of observation on strength and function dependent variables in the hemiparetic (test) and non-hemiparetic (control) limbs. The data will be discussed in terms of possible mechanisms that may cause the findings and also whether other manipulations such as action imagery could be used to yield similar effects.

Disruption to aspects of imagery vividness following stroke.

Paul S. Holmes (Institute for Performance Research, Manchester Metropolitan University, UK)

Louise M. Ewan (School of Psychological Medicine, University of Glasgow, UK)

Nickolas C. Smith (Institute for Performance Research, Manchester Metropolitan University, UK)

There is an increasing literature to support the contention that individuals affected by stroke show an altered imagery ability profile compared to healthy individuals (e.g., Mulder, 2008). The detail of this disruption, however, remains unknown and is likely to be multifarious involving site specific damage, extended periods of inactivity and negative affect (see Holmes, 2007 for a review).

The purpose of this study, therefore, was to assess some of the imagery characteristics in individuals affected by stroke. In particular it examined differences in imagery vividness from two different visual perspectives and the experience of kinesthesia. Participants completed the Vividness of Movement Imagery Questionnaire-2



(VMIQ-2), which assesses an individual's imagery vividness in three conditions (internal visual imagery, external visual imagery, and kinesthetic imagery). A MANOVA revealed between-group differences. A significant multivariate main effect emerged for the grouping variable. Post-hoc tests revealed that individuals affected by stroke had significantly less vividness for internal perspective imagery, and movement kinesthetic imagery compared to a healthy age-matched group. However, the former group showed significantly better external perspective vividness than the latter group. These findings suggest that aspects of imagery vividness may be compromised as a result of stroke. We suggest this may be a consequence of lesion damage and functional motor inactivity. Vividness of generated images, visual perspective and kinesthetic imagery should be considered in imagery-based stroke rehabilitation interventions. It may be that action observation interventions in combination with motor imagery may be more optimal in supporting the physical therapies used with individuals affected by stroke.

The efficacy of mental practice with motor imagery in motor recovery after stroke: a randomised placebo-controlled trial.

Magdalena Ietswaart (Department of Psychology, School of Life Sciences, University of Northumbria, UK)

Marie Johnston (Health Psychology Research Group, School of Psychology, University of Aberdeen, UK)

Chris Dijkerman (Helmholtz Institute, Experimental Psychology, Utrecht University, the Netherlands)

Steven Hamilton (Department of Medicine for the Elderly, Grampian University Hospital Trust, UK)

Ronald MacWalter (School of Medicine Dentistry and Nursing University of Dundee and Ninewells Hospital, UK)

Sara Joice (Health Psychology Research Group, School of Psychology, University of Aberdeen, UK; School of Medicine Dentistry and Nursing University of Dundee and Ninewells Hospital, UK)

Clare Scott (Health Psychology Research Group, School of Psychology, University of Aberdeen, UK)

This study evaluated the therapeutic benefit of mental practice with motor imagery (MP) in stroke patients with persistent upper limb motor weakness. There is evidence to suggest that mental rehearsal of movement can produce effects normally attributed to practising the actual movements. Imagining hand movements could stimulate restitution and redistribution of brain activity, which accompanies recovery of hand function, thus resulting in a reduced motor deficit. Current efficacy evidence for MP in stroke is insufficient due to methodological limitations. This Randomised Controlled Trial (RCT) sequential cohort study included 121 stroke patients with a residual upper limb weakness within six months following stroke (average <3 months post-stroke). The trial evaluated the outcome of patients involved in four weeks of 45 minute daily mental rehearsal of upper limb movements under close supervision, compared to patient who performed closely supervised non-motor mental rehearsal, and patients receiving normal care without additional training. Results suggest that MP does not enhance motor recovery in patients early post-stroke. It remains to be seen whether mental practice with motor imagery is a valid rehabilitation technique in its own right. The clinical, practical and theoretical implications of this finding are discussed.

Deficits in movement imagery ability in children with developmental coordination disorder.

Jennifer Cumming (University of Birmingham, UK)

Sarah E. Williams (University of Birmingham, UK)

Giles M. Anderson (University of Birmingham, UK)

Joseph P. McCleery (University of Birmingham, UK)

Diane M. Ste-Marie (University of Ottawa, Canada)

Developmental Coordination Disorder (DCD) is a motor disability affecting 1 in 20 school-aged children, with 2% severely affected (Zoia et al., 2006). Children with DCD are clumsy and find it difficult to perform simple motor skills, such as tying shoes. These difficulties impair academic achievement and activities of daily living and, without intervention, persist into adulthood. A problem in motor planning is thought to underlie the increased errors and slower movements found in children with DCD (Wilson et al., 2004). Converging neurophysiological and behavioural evidence indicates that movement imagery shares common mechanisms with motor planning. For this reason, movement imagery tasks are used to measure deficiencies in the ability to generate an accurate internal representation of the intended movement. Unlike typically developing children, for example, imaged movement times in children with DCD do not always conform to the speed-accuracy trade-off found in the execution of real movements (Wilson et al., 2004). The aim of this presentation is to review literature on the movement imagery ability of children with DCD in light of recent



brain imaging evidence uncovering the neural correlates of this disorder (Zwicker et al., 2009). Given its facilitating role in the learning and performance of motor skills, movement imagery is also an intervention strategy to explore in children with DCD (Cairney, 2008). Thus, theoretically-based models and methods drawn from the sport psychology literature, such as the use of action observation, will be discussed in terms of their seemingly high potential for improving movement imagery ability in these children.

Understanding emotions in sport: are we really getting a grip?

Organizer: Mark Uphill (Canterbury Christ Church University, UK)

Discussant: Mark Uphill (Canterbury Christ Church University, UK)

Recent decades have witnessed a considerable growth in the literature directed toward emotions in sport, reflected in a round table discussion on the topic at the FEPSAC conference in Copenhagen, 2003. Literature on emotions in sport is characterised by theoretical and methodological pluralism and this symposium reflects such diversity with papers being directed toward aspects of the antecedents, consequences, and regulation of emotions in sport. Paper 1 reports a cross-sectional study indicating that athletes' emotional beliefs, and emotion-regulation confidence influence their emotional experience and likelihood of seeking professional help. An experimental study examining the influence of athletes' achievement goals on reported emotions is presented in Paper 2, while Paper 3 indicates that trait anxiety and defensiveness combine to influence components of cognitive performance. Paper 4 provides an overview of findings related to the Theory of Challenge and Threat States in Sport, and the symposium concludes with Paper 5, that reports reflections on an intervention, designed in part to assist a young athlete manage her emotions in a debut at a major competition. This symposium is designed to embrace the theoretical and methodological diversity evident in contemporary literature. Alongside this tolerance toward eclecticism, it is anticipated that a critical-reflective stance will permeate the presentations, such that a lively discussion regarding the challenges inherent in this broad domain of enquiry will ensue.

Can you get a grip on emotions or do they get hold of you? emotional beliefs & implications for emotional experience and psychological support.

Mark Uphill (Canterbury Christ Church University, UK)

Andrew Manley (Leeds Metropolitan University, UK)

This study examined the separate and combined influence of athletes' emotional beliefs and emotion-regulation efficacy on (a) use of emotion-regulation strategies, (b) characteristics (intensity, frequency, direction) of emotions, and (c) the likelihood of seeking support to regulate emotions. Participants comprised British university students on sport-related courses ($n = 245$: male = 150), aged between 18 and 48 years ($M = 19.5$; $SD = 2.9$ yrs), who participated in a range of team and individual sports. Scores on the measures of entity/incremental beliefs, and emotion-regulation efficacy were dichotomised using a median split. Findings from a 2 (emotion belief: entity v incremental) \times 2 (emotion regulation efficacy: high v low) MANOVA suggests that athletes holding entity beliefs (emotions are fixed) make greater use of suppression to regulate emotions compared to those holding incremental beliefs ($F(1, 7.81) = 6.23, p < 0.05$). A series of univariate ANOVAs revealed that compared to those with low emotion-regulation efficacy, athletes high in emotion-regulation efficacy were more likely to (a) reappraise ($F(1, 4.96) = 5.81, p < 0.05$); (b) feel more happiness ($F(1, 19.42) = 13.38, p < 0.001$) and excitement ($F(1, 13.21) = 9.24, p < 0.05$); (c) perceive that happiness ($F(1, 3.06) = 6.36, p < 0.05$) and excitement ($F(1, 4.10) = 6.92, p < 0.05$) have a facilitative impact on performance; and (d) seek assistance from a professional ($F(1, 4.93) = 3.94, p < 0.05$). Understanding athletes' beliefs about emotion may help

Effects of achievement goals on emotions and performance on an agility task.

Andrew Dewar (University of Birmingham, UK)

Maria Kavussanu (University of Birmingham, UK)

Christopher Ring (University of Birmingham, UK)

Very little research has examined the effects of achievement goals on emotions and no sport study has investigated their effects on performance in an experimental setting. This experiment examined the effects of



achievement goals on emotions and whether any such effects are mediated by subjective performance. University students (N=120), tested in pairs, participated in a mixed multi-factorial design with group (task, ego, control) as the between-subjects factor and condition (practice, competition) as the within-subjects factor. In each condition, participants completed three trials, each consisting of four repetitions of a 10-rung Speed Agility Quickness ladder, as fast and accurately as possible. Measures of emotions (happiness, pride, dejection, anger) and subjective performance were obtained after each condition. Before the competition condition, the experimental manipulation - task (improve your own performance), ego (beat your opponent) or control - was delivered. After the competition condition, participants completed manipulation checks.

Separate Group by Condition ANOVAs will determine the effects of achievement goals on emotions and subjective performance. Group by Condition ANCOVAs, with subjective performance as the changing covariate, will examine whether subjective performance mediates the effects of achievement goals on emotions. Preliminary analysis with the current sample size suggests that those in the task group experience higher happiness and lower dejection and anger than those in the ego group. Also, those in the task group report higher subjective performance than those in the ego or control groups.

The effect of anxiety and defensiveness on central executive processes.

Jon Swain (Canterbury Christ Church University, UK)

The aim of this study was to explore the effect of anxiety and defensiveness on a random generation task that required working memory resources. Previous research supports the hypothesis that repressors and defensive high-trait anxious individuals possess specific cognitive biases that affect the processing of negative information. Thirty-six participants were selected into four groups (Low-trait/Repressor/High-trait/High-trait defensive) to explore random generation tapping task performance under low and high stress conditions. The results of the present study support the hypothesis that repressive individuals experience low levels of cognitive anxiety and perform similarly to low trait individuals even under evaluative conditions. However, defensive high-trait anxious participants differ from high-trait anxious participants in their ability to inhibit pre-potent responses as state anxiety increases (? RNG scores ($t(16) = 2.38, p < 0.05$). Defensive high-trait random generation performance significantly improved, whilst high-trait performance significantly decreased, as state anxiety increased. Defensive high-trait anxious individuals appear to be effective at using a defensive coping strategy under low stress conditions; however this becomes less effective as state anxiety increases. No other random generation measures demonstrated significant changes in performance ($p > 0.05$). This suggests that those processes required for the inhibition of pre-potent responses are adversely affected by evaluative conditions whilst those processes concerned with updating appear to be relatively robust. The study will discuss how central executive limitations may impact upon sport performers whilst

Challenge and threat states in athletes: an overview of findings.

Carla Meijen (University of Kent, UK)

Marc Jones (Staffordshire University, UK)

David Sheffield (University of Derby, UK)

Paul McCarthy (Glasgow Caledonian University, UK)

The theory of challenge and threat states in athletes (TCTSA) outlines that a challenge state, in contrast to a threat state, is characterised by high levels of self-efficacy and perceived control, approach goals, positive emotions, a helpful interpretation of emotional state and a cardiovascular reactivity pattern of increased cardiac output and decreased total peripheral resistance. Four studies were conducted to examine the relationship between the cognitive, affective and physiological components of challenge and threat states in a sport setting. These comprised a qualitative analysis of athletes' interviews about an upcoming competition (study 1), a cross-sectional questionnaire study (study 2) and two studies where self-report data were associated with cardiovascular responses to an upcoming competition (study 3) or previous competition (study 4). Overall, the cognitive and affective components are largely supportive of the TCTSA, with a positive relationship between self-efficacy, perceived control and approach goals. Threat appraisal and anxiety were positively predicted by avoidance goals. Most of the physiological findings, however, were not in line with the predictions of the TCTSA. Specifically, participants who had high levels of self-efficacy appeared to be physiologically threatened by an upcoming competition. Study four did not show a consistent relationship between the cognitive, affective, and physiological components. Temporal patterning may be one of the main



confounding factors for the inconsistent findings as the relationships between physiological, cognitive, and affective components all change in the lead up to competition. The presentation will conclude with an evaluation of the TCTSA and suggestions for further research.

Controlling emotions on the big stage: reflections on an athlete's debut at a major game.

Andrew Manley (Leeds Metropolitan University, UK)

This paper will present the case study of a 16 year-old female swimmer who was selected to represent her country at the 2010 Commonwealth Games in Delhi. The case study will focus primarily on the athlete's emotional beliefs and responses at critical time points prior to, during, and following her debut at the Games. Specifically, the presentation will describe the findings of a semi-structured interview conducted with the athlete four weeks after her return to the UK. The interview afforded the athlete an opportunity to provide an account of her emotional responses to specific events (e.g., arrival at the holding camp and Games venue; inter- and intra-team conflict; competitive performances during the Games) and the strategies she employed in her attempts to deal effectively with these emotions. In addition, details of an intervention designed to help the athlete control her pre-competitive emotions will be presented, with quantitative and qualitative data provided to demonstrate the extent to which the intervention was deemed a success in terms of helping the athlete to manipulate her pre-competitive emotional state. The presentation will also include reflections from the author regarding the consultation process, with a view to offering some recommendations for applied practitioners who may be providing psychological support to athletes competing at a major game for the first time.

Effects of achievement goals on emotions and performance on an agility task.

Andrew Dewar (University of Birmingham, UK)

Very little research has examined the effects of achievement goals on emotions and no sport study has investigated their effects on performance in an experimental setting. This experiment examined the effects of achievement goals on emotions and whether any such effects are mediated by subjective performance. University students (N=88 at this time, final N=120), tested in pairs, participated in a mixed multi-factorial design with group (task, ego, control) as the between-subjects factor and condition (practice, competition) as the within-subjects factor. In each condition, participants completed three trials, each consisting of four repetitions of a 10-rung Speed Agility Quickness ladder, as fast and accurately as possible. Measures of emotions (happiness, pride, dejection, anger) and subjective performance were obtained after each condition. Before the competition condition, the experimental manipulation - task (improve your own performance), ego (beat your opponent) or control - was delivered. After the competition condition, participants completed manipulation checks.

Separate Group by Condition ANOVAs will determine the effects of achievement goals on emotions and subjective performance. Group by Condition ANCOVAs, with subjective performance as the changing covariate, will examine whether subjective performance mediates the effects of achievement goals on emotions. Preliminary analysis with the current sample size suggests that those in the task group experience higher happiness and lower dejection and anger than those in the ego group. Also, those in the task group report higher subjective performance than those in the ego or control groups.

Specialization in sport psychology.

Organizer: Mark Schuls (Mental Training & Coaching Centre; University of Groningen, Netherlands)

Discussant: Hardy Menkehorst (Mental Training & Coaching Centre, Belgium)

It is common for a sport psychologist to work in any kind of sport. Issues in different kinds of sports can be quite similar or alike from a psychological point of view. However, a sport psychologist has to bring his professional skills to perfection, just like every elite athlete does. When an athlete wants to excel, he has to specialize at some point in his career (Baker, 2003), for example by choosing a specific discipline. Consequently, when a sport psychologist wants to become an "expert performer", he has to specialize as well. In the sport science literature, a more sport-specific mental training program approach is getting more common (e.g. Dosil,



2006). Based on an expert performance framework, it will be argued that applied sport psychologists need to specialize. In the first, introducing presentation of the symposium different phases of the development of an applied sport psychologist (Gardner, 2005) will be discussed and it will be argued when specialization fits in this development.

This presentation will be followed by three applied sport psychologists who will elaborate on their own experiences in specializing and working in a (particular category of) sport. The important mental factors that make each sport (category) more unique will be highlighted. Also adequate and evidence-based strategies for implementing a mental training program in each sport are discussed. These three presentations will be further illustrated in the following abstracts.

Applied sport psychology in golf.

Mitchel Kevenaer (Mental Training & Coaching Centre, Belgium)

In golf the ball sits still, the target doesn't move, and it's up to the player to initiate the shot. This makes it look easy for the layman, but from a mental perspective the opposite is true. A round of golf can take up to five hours and because it's self-paced there is a lot of time for a player to overthink, get distracted, develop self-doubt and / or get anxious. In golf a common way of dealing with this is using a specific kind of performance routine; the pre-shot routine.

A pre-shot routine is a combination of cognitive and behavioral strategies used before the execution of a golfshot. It is used to regulate attention, level of arousal, imagery, thoughts and emotions. The main purpose is to be optimally prepared for the next shot, both physically and mentally.

The pre-shot routine in golf is where the physical, the technical, the strategic and the mental game come together. Several descriptions of pre-performance routines in general and pre-shot routines in golf specifically are available in both scientific and applied literature. Among other things they describe using target selection, relaxation techniques, imagery, attention cues, expectation management, self-talk, commitment and confidence. From research and applied work, several key elements appear consistently. A good pre-shot routine is practiced, automatic, personal and (relatively) temporally consistent. This is where the applied sport psychologist can be of great value for the golfer.

"Competitive golf is played mainly on a five-and-a half-inch course...the space between your ears." ~ Bobby Jones ~

Applied sport psychology in dressage.

Jutta Hulshof (Mental Training & Coaching Centre, Belgium)

Dressage is an equestrian sport which has many unique characteristics. If an applied sport psychologist starts working with such a horse-rider, these unique aspects need to be taken into account. First, dressage is taken as an example of a "jural sport". In jural sports, the main characteristic is that athletes depend on a jury to determine their performance scores. This has a lot of consequences for different mental processes of the athlete, for example for his or her goal-setting, attributional strategies, pre-competitive mood and attentional focus (i.e. the jury can be a big distraction). By using case examples, appropriate mental training strategies are discussed.

Second, the horse-rider relation is an extraordinary psychological dimension of equestrian sports. The training process and subsequent performance outcomes are dependent on the cooperation of two species to achieve a goal. Therefore the sport psychologist should also understand the mental challenges faced by the horse and how horse and rider influence each other. Being a sport psychology specialist in equestrian sports, these factors should be common knowledge. The presenter of this presentation has a background in equestrian sports.

Testing the team.

Hardy Menkehorst (Mental Training & Coaching Centre, Belgium)

When an applied sport psychologist is working with a team, optimizing the interpersonal processes is one of the key aspects of your intervention. Teams are more than a bunch of individuals lumped together at a specific point in time. They should have a common goal or at least share some procedures for getting the job



done (Carron, Hausenblas & Eys, 2005).

In this presentation a short exercise to analyse your own group of individuals, based on scientific definitions of a team, will be demonstrated. Is it really a team or is there still a lot of work to be done to make it a team? At the end of the analysis you will have some starting points to implement your interventions. This exercise is an example of what you can do if you are specialized in teams sports as a sport psychologist.

Morality in sport: social, cognitive and affective perspectives.

Organizer: Maria Kavussanu (University of Birmingham, UK)

Discussant: Glyn C. Roberts (Norwegian University of Sport Science, Norway)

Morality ultimately lies in action (Shields & Bredemeier, 1995). Behaviours typically classified within the moral domain are those that have potential consequences for others. The present symposium discusses social, cognitive, and affective factors associated with a diverse set of morally relevant behaviours in different contexts: prosocial and antisocial behaviour in the sports field, aggression in the laboratory context, and use of doping substances. The symposium consists of four talks. The first talk presents research that examined age and sex differences in observed antisocial and prosocial behaviours in football. This research also investigated motivational climate and empathy as factors that could explain such differences. The second presentation discusses an experiment that aimed to investigate whether empathy inhibits aggression in a competitive reaction-time task and whether guilt and anger (as indexed by changes in heart rate) mediate these effects. The third talk presents research on moral disengagement and use of doping substances. Specifically, it explores longitudinal relationships between moral disengagement, attitudes, self-regulatory efficacy and social approval for use of doping substances. Finally, the fourth presentation discusses an experiment that investigated athletes' emotional responses (i.e., valence ratings, startle blink and heart rate deceleration) to sport-specific unpleasant, neutral and pleasant images, and explored whether moral disengagement and antisocial behaviour moderated such responses. Overall, the research described here shows that certain cognitive, affective and social factors are associated with antisocial behaviour in athletes.

Age and sex differences in observed prosocial and antisocial behaviours in football.

Maria Kavussanu (University of Birmingham, UK)

Robert Mackenzie (Loughborough University, UK)

Christopher Ring (University of Birmingham, UK)

Luke Sage (Coventry University, UK)

Research has shown that, during adolescence, observed antisocial behaviour in male football players increases, whereas prosocial behaviour decreases (Kavussanu, Seal, & Phillips, 2006). The present study extended this work to females and young adults and examined (a) age and sex differences in observed prosocial and antisocial behaviours in football and (b) whether perceived motivational climate and empathy explain such differences. Forty-eight male and female recreational football teams drawn from one of four age groups (10-13, 14-15, 16-17, 18-21 years old) were filmed during a competitive football match. Players from each team also completed questionnaires measuring perceived motivational climate and empathy. Prosocial and antisocial behaviours were coded by two observers, and the average frequency per hour per team was computed and used in all analyses. A series of 4 Age Group by 2 Sex ANCOVAs showed that the oldest group engaged in more antisocial behaviours than the other three groups and males behaved more antisocially and less prosocially than females. ANCOVAs, controlling for motivational climate, showed that mastery and performance climates explained 3%, and 5%, respectively, of the antisocial behaviour variance that was due to age, and 12%, and 15%, respectively, of the antisocial behaviour variance that was due to sex. ANCOVAs, controlling for empathy, showed that empathy explained 9% of the antisocial behaviour variance that was due to sex but had no effect on the antisocial behaviour variance that was due to age. The findings broadly support previous research on antisocial behaviour in male football players.



The effects of empathy on aggression in a competitive task.

Nicholas Stanger (University of Birmingham, UK)

Christopher Ring (University of Birmingham, UK)

Maria Kavussanu (University of Birmingham, UK)

Although empathy has been associated with aggression in cross-sectional research, very few experiments have investigated this link. In this experiment, we examined whether empathy inhibits aggression in a competitive reaction-time task and whether this effect is mediated by emotion. Forty team-sport athletes were randomly assigned to either a high empathy (instructed to take their opponent's perspective) or a low empathy (instructed to remain objective and detached) group. Then, participants competed against a fictitious opponent in 32 reaction-time trials, where winning and losing were predetermined. Every time they "lost", participants received an electric shock up to their pain threshold, and every time they "won", a shock of their chosen intensity was "administered" to their fictitious opponent. The mean shock intensity participants selected to be administered to their opponent provided a measure of aggression. Participants completed measures of guilt after 16 and 32 trials, and heart rate was recorded throughout the task as an index of emotional arousal. ANCOVAs revealed that the high empathy group was less aggressive and reported more guilt after the shock was "administered" to their opponent than the low empathy group. The high empathy group also reacted with a smaller increase in heart rate after being informed who won/lost the trial. Regression analyses indicated that guilt and heart rate change (possibly reflecting anger) partially mediated the effects of empathy on aggression. These findings provide evidence that empathy inhibits aggression by increasing guilt when one acts aggressively and by possibly reducing anger when one is the victim of aggression.

The relative contribution of moral disengagement, doping attitudes, social norms and self-regulatory.

Fabio Lucidi (University of Rome La Sapienza, Italy)

Arnaldo Zelli (University of Rome Foro Italico, Italy)

Luca Mallia (University of Rome Foro Italico, Italy)

The use of doping substances, like any other illicit behaviour, is an example of transgressive conduct that may depend on one's personal resources and self-regulatory capacities. That is, social structure and environmental factors (e.g., norms, peer influences) may operate in concert with personal factors, such as the internal standards and self-sanctions that regulate reprehensible conduct. In this talk, we briefly review some findings concerning the general hypothesis that moral disengagement, which involves individuals' means to selectively deactivate moral censures (e.g., attribution of responsibility), may partly account for adolescents' propensity to use doping substances. This talk summarizes new analyses on a comprehensive dataset that involved nearly 3,000 Italian adolescents and young adults, that primarily focused on a moral disengagement measure developed by the authors to examine moral disengagement with respect to the use of doping substances. These analyses showed a number of significant findings. First, doping-specific moral disengagement is uni-dimensional ($\chi^2(9) = 89.9$, CFI = .99), and there exist reliable differences in moral disengagement among adolescents. Second, doping-specific moral disengagement has reciprocal relations with positive attitudes, self-regulatory efficacy and social approval for use of doping substances. Third, these patterns of social-cognitive relations partly account for variability in adolescents' and young adults' use of doping substances. In conclusion, personal and social environmental factors may influence the use of doping substances in adolescents and young adults.

The role of moral disengagement and antisocial behaviour on emotional blunting in athletes.

Ian Boardley (University of Birmingham, UK)

Maria Kavussanu (University of Birmingham, UK)

Christopher Ring (University of Birmingham, UK)

Moral disengagement reduces the negative emotions individuals experience when they behave antisocially, thereby facilitating their antisocial behaviour (Bandura, 1991). We examined whether moral disengagement and antisocial behaviour in sport are associated with blunted emotional reactions to sport-specific affective images. Fifty-seven male university students completed questionnaires assessing moral disengagement and antisocial behaviour in sport. Then, they viewed 40 images drawn from one of three valence categories: unpleasant (e.g.,



player injuring another player), neutral (e.g., player running), and pleasant (e.g., player celebrating). During image viewing, startle blink and heart rate were recorded as physiological measures of emotion. After image viewing, participants rated each image for valence (pleasant-to-unpleasant), providing a psychological measure of emotion. Repeated measures MANOVA showed that athletes responded with significantly greater unpleasantness ratings, startle blink, and heart rate deceleration while viewing unpleasant compared to pleasant images. Thus, our images elicited the pattern of emotional responses found for non-sport images. Within-subjects regression analyses tested whether moral disengagement and antisocial behaviour moderated emotional responses. The difference between unpleasant and pleasant image categories in valence ratings, startle blink, and heart rate deceleration responses was separately regressed on moral disengagement and antisocial behaviour. These analyses showed that the higher the moral disengagement and antisocial behaviour, the smaller the difference in ratings between unpleasant and pleasant images. Physiological responses were not moderated by moral disengagement and antisocial behaviour. Our findings suggest that athletes who use moral disengagement and behave antisocially while playing their sport have blunted emotional responses providing some support for Bandura's (1991) theory.

Understanding exercise behaviour - the role of self-control, self-regulation and autonomous motives.

Organizer: Taru Lintunen (University of Jyväskylä, Finland)

Discussant: Stuart Biddle (School of Sport, Exercise & Health Sciences, Loughborough University, UK)

Exercise behaviour is a chosen behaviour, people don't have to exercise. Understanding the elements of choice, autonomy, self-regulation, and self-control in relation to exercise behaviour gives an insight into how people make choices in relation to health and the motivating and inhibiting factors they might be confronted with. Self-regulation is an important component of psychosocial theories of exercise behaviour and lack of self-regulatory skills are associated with low adherence to health-related exercise. Exercise behaviour cannot be seen separately from contextual variables, it is easier to exercise in some circumstances than it is in other. The current symposium examines self-regulation, autonomous motives, and physical activity (PA) in developmental and experimental contexts.

The first paper presents the strength-energy model of self-control as an explanation of self-regulation in exercise contexts. The review will provide impetus for original research aimed at understanding exercise behaviour and help develop recommendations for exercise promotion.

The second paper examines the relationships between self-determined regulations and PA during school breaks and in leisure-time context outside of school. In the next two longitudinal studies school students' PA, perceived physical fitness, perceived autonomy, social relatedness, and intentions to be physically active were followed during three years. The aim of the last study was to examine whether taking participants' preferences for a specific interactive virtual reality (IVR) application into account could impact on affective responses to an IVR exercise session. Participants in the "self-selected IVR exercise" condition reported significantly higher pleasure than participants in either of the other conditions.

Self-regulation and self-control in exercise: the strength-energy model.

Martin S. Hagger (School of Psychology and Speech Pathology, Curtin University, Australia)

Chantelle W. Wood (Institute of Psychological Sciences, University of Leeds, UK)

Chris Stiff (School of Psychology, Keele University, UK)

Nikos L.D. Chatzisarantis (National Institute of Education, Nanyang Technical University, Singapore)

Self-regulation is an important component of psychosocial theories of exercise behaviour and lack of self-regulatory skills are associated with low adherence to health-related exercise. This review presents a strength-energy model of self-control as an explanation of self-regulation in exercise contexts. The review will provide impetus for original research aimed at understanding exercise behaviour and help develop recommendations for exercise promotion. In the model, self-control is conceptualized as a global but limited resource. Engaging in actions requiring self-control depletes resources leading to self-regulatory failure. Self-control resource depletion is reduced through rest and frequent training on self-control. The expectation of the need to exert self-control in future leads to a conservation of self-control resources. Proposed mechanisms for self-control resource depletion include changes in physiological markers and blood glucose



levels. Based on our review, we propose an integrated model of self-regulation incorporating hypotheses from the strength-energy model with those from traditional psychosocial models of exercise behaviour. We also present some preliminary data in which trait self-control acts as a distal influence on exercise intentions and behaviour. Recommendations for future research include incorporating hypotheses from the strength-energy model into theories of self-presentation and interpersonal relations in exercise. Practical recommendations aimed at minimising self-control depletion in exercise include the provision of advice on nutrition and recovery, self-control training, and motivational and implementation intention strategies.

Autonomous motives and self-reported physical activity during school day and leisure-time.

Heidi Pasi (Department of Sport Sciences, University of Jyväskylä, Finland)

Martin S. Hagger (School of Psychology and Speech Pathology, Curtin University, Australia)

Taru Lintunen (Department of Sport Sciences, University of Jyväskylä, Finland)

The aim of the present study was to describe the motivational factors from self-determination theory (Deci & Ryan, 1985) important to PA behaviour in school children during school breaks. Specifically, relationships between self-determined regulations and PA during school breaks and in leisure-time (LT) outside of school was examined. In addition, differences in motivational orientations between boys and girls were studied.

School pupils (N=993, girls, n=534, boys, n=459; M age=13.90 years, SD=0.98) from three different secondary level schools participated in the study. We used the perceived locus of causality in LT context scale (Mullen et al. 1997), which was adapted to the school context. Four factors were extracted in the LT context representing different forms of motivation from SDT: autonomous motivation (AUT), introjected (IJ), extrinsic (EX), and amotivation (AM). Three factors were found in the school context: AUT, controlled motivation (CON), and AM. Boys reported higher PA levels both in school ($p=.03$) and in LT contexts ($p<.01$). In the school context boys had higher levels of AUT ($p=.04$) and CON ($p=.01$) motivation whereas girls reported higher AM ($p<.01$). In LT context IJ was higher among the girls ($p<.01$). AUT scale was significantly correlated with PA in both the LT ($r=.55, p<.01$) and school ($r=.50, p<.01$) contexts.

In conclusion, autonomous motivation was the strongest predictor of PA in both contexts. All the means of the studied variables were lower in the school than LT context except amotivation, which suggests that enhancing PA in breaks at school might be challenging.

Adolescents' physical activity, perceived fitness, autonomy and relatedness from grade 6 to grade 9.

Arto Gråstén (Department of Sport Sciences, University of Jyväskylä, Finland)

Physical activity (PA) is a result of cognitive processes, in which social-cognitive factors appear as key determinants in the adoption of PA. The aim of this study is to analyze adolescents' physical activity, perception of physical fitness, perceived autonomy, and social relatedness in PE from Grade 6 to Grade 9.

A sample of 438 adolescents (increased up to 735 at Grade 7) from Central Finland were followed up across the time period of 2007-2009. The Health Behaviour in School-aged Children Research Protocol was used to measure adolescents' self-assessed PA. The perception of physical fitness was asked using a four-step scale (very good...poor). Perceived autonomy and social relatedness were measured with the School Motivational Climate Scale. Data analyses were conducted with repeated measures ANOVA.

The results showed that adolescents' PA decreased from Grade 6 to Grade 9. The perception of physical fitness increased from Grade 6 to Grade 7. Perceived autonomy increased strongly from Grade 6 to Grade 7. Social relatedness decreased from Grade 6 to Grade 7 spring and increased from the Grade 8 fall to Grade 9.

The results support previous findings of adolescents' decreased PA. To our knowledge, changes in perception of physical fitness, perceived autonomy and social relatedness in PE have never been investigated in longitudinal settings, including transition period from Grade 6 to Grade 7. These findings suggest that further research is required to understand the relationships of adolescents' social-cognitive motivational factors and PA.



The associations in measured and perceived fitness, intention, and physical activity within students.

Timo Jaakkola (Department of Sport Sciences, University of Jyväskylä, Finland)

The purpose of this longitudinal study was to analyze Finnish students' physical fitness, perceived physical fitness, intention to be physically active in the future, and physical activity over their junior high school. The participants were 132 students from three schools. The physical fitness variables (aerobic fitness, flexibility, muscular fitness, speed) as well as perceived physical fitness were collected during their Grade 7. The intention to be physically active after one year was gathered within their Grade 8. Self-reported physical activity was collected while the students were at Grade 9. A Structural Equation Modeling analysis was conducted to analyze the associations among the study variables over the time. The analysis demonstrated that the data fitted the model well ($\chi^2(10) = 11.53, p = .32; RMSEA = .036; GFI = .97; AGFI = .93; NNFI = .97$). The physical fitness as well as perceived physical fitness predicted intention to be physically active in the future 27%. Subsequently, the physical fitness, perceived physical fitness, and the intention to be physically active in the future predicted self-reported physical activity 17%. Additionally, the direct path from perceived physical fitness to self-reported physical activity was found. Finally, indirect paths from perceived physical fitness and aerobic fitness via intention to self-reported physical activity were found. The results of the study highlight the importance of physical fitness and the perceived physical fitness in the process of adoption physical activity within junior high school.

The mood-boosting effects of "exergaming": individual preferences matter.

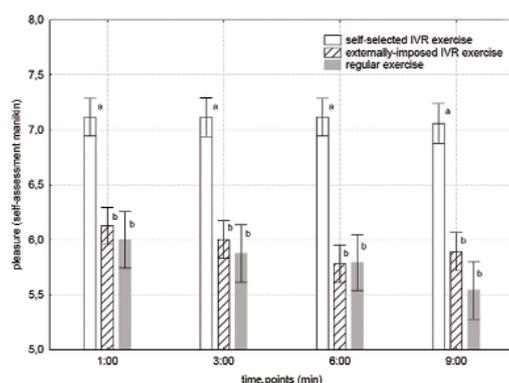
Fabien D. Legrand (Université de Reims Champagne Ardenne, France)
Philippe M. Joly (Université de Reims Champagne Ardenne, France)
William M. Bertucci (Université de Reims Champagne Ardenne, France)
Julie Marcel (Université de Reims Champagne Ardenne, France)

Previous research has suggested that interactive virtual reality (IVR) might enhance mood benefits associated with exercise. However, Russell and Newton (2008) recently found that IVR technology did not increase the affective beneficence of exercise. The aim of the present study was to examine whether taking participants' preferences for a specific IVR application into account could impact on affective responses to a 10min IVR exercise session.

Methods:

131 participants were assigned to one of three conditions. In the first one, they were demonstrated two IVR applications and were asked to select their preferred one. The Positive Affect/Negative Affect Schedule was administered and they started to exercise for 10min at a similar relative (moderate) intensity. Pleasure was assessed at 3min intervals using the Self-Assessment Manikin. Finally, the PANAS was completed another time upon exercise cessation. An identical procedure was followed in the externally-imposed IVR exercise condition (except that the investigators arbitrarily imposed the IVR application), and in the regular exercise condition alike.

Results & Discussion:



Significant mood benefits were observed pre- to postexercise for participants in both conditions. During exercise however, participants in the "self-selected IVR exercise" condition reported significantly higher pleasure than participants in either of the other conditions, the scores of whom were similar (see Figure 1). The major implications of these findings will be discussed during the symposium.





A complex systems approach to studying behaviour in sport.

Organizer: Keith Davids (Queensland University of Technology, Australia)

Discussant: Duarte Araújo (Technical University of Lisbon, Portugal)

At a fundamental level, the relationship between athletes and their environments can be conceptualised as a complex system with many parts capable of interacting on different levels. From this relationship, rich patterns of behaviour can emerge under a range of constraints. In recent times, empirical work has sought to investigate how individual agents in the system co-adapt their behaviours as system outputs emerge. The aim of this symposium is to discuss the implications of these ideas for understanding behaviour and practice in sport. A key idea is that self-organisation processes, inherent to many different biological systems including human movement systems, constrains the emergence of movement patterns, cognitions and decision making processes in athletes and learners during practice. A major role for sport scientists is to identify key constraints on learners, particularly informational and task constraints, and manipulate them so that individuals are pushed to a region of self-organised criticality during practice. In the region of self-organised criticality, interdependency between system agents exists and slight changes in near-neighbour interactions can break the balance of equally poised options leading to transitions in system order. Rich, creative patterns of behaviour can emerge as individuals co-adapt their actions to satisfy the specific task constraints imposed by coaches and teachers. Variability of actions can lead to novel behaviours and psychologists should seek to design learning environments to facilitate functionally, variable cognitions, decisions and actions in individuals.

Self-organized criticality in the attacker-defender interaction in Rugby Union.

Pedro Passos (Technical University of Lisbon, Portugal)

J. Milho (Lusófona University of Humanities and Technologies, Portugal)

Duarte Araújo (Technical University of Lisbon, Portugal)

Keith Davids (Queensland University of Technology, Australia)

Due to the conflicting nature of individual and collective goals, attacker-defender systems in team games evolve through periods of stasis that exist between intermittent bursts of activity. The continual decreasing of interpersonal distance between attacker and defender teams drives these systems to regions where a context-dependency amongst competing agents exists. Here slight changes in near-neighbour interactions can abruptly break the balance of similarly poised options leading to transitions in the attacker-defender system structural organization suggesting that the frequency of attacker-defender adjustments exhibit differing magnitudes, which is characteristic of a power law distribution. An experimental task was designed based on a typical rugby union attacking sub-phase near the try line; (i.e., 4vs2+2).

Videogrammetry captured players' motion using a single digital video camera at 25Hz and TACTO 8.0 software digitized player's positions. Sixteen male rugby union players aged between 16 and 17 years participated in the study (mean number of years of rugby experience = 4.0, $sd=0.5$). The sub-units trajectories on the playing field were captured using the geometric centroids. Aiming to characterize the attacker-defender balance a vector was used to connect both centroids. Based on the geometric centroids rate of change a power law distribution was calculated accordingly with the procedures from Clauset, Shalizi and Newman (2009). The data confirmed our hypothesis that attacker-defender balance in rugby union can be characterized as a power law. However from the 34 trials under analysis, a power law distribution do not apply to 9 of them which raises new questions to further research.

Shaping decisions in sport: affordances and social, neural, and physiological constraints on action.

Gert-Jan Pepping (University of Groningen, Netherlands)

Decision-making is relevant in instances where an individual athlete needs to reach an individual solution, such as when taking a penalty kick in football or avoiding an opponent in rugby. In other situations multiple athletes simultaneously make decisions to reach common goals. In this talk we address different levels of analysis at which decision-making in multi-agent systems in sport is studied. Typically, decision-making is examined at the level of the individual athlete. In view of theoretical as well as practical relevance we suggest that the study of decision-making must take a systems perspective and that affordances dynamically shape decisions. That is, the emergence of decisions depends on perception and action with reference to the action possibilities of an athlete in its sport specific environment. The study of decision-making in sports should therefore take into



account the perceptuo-motor constraints that shape affordances. Due to their social, neural, and physiological nature, the relationship between athletes and their sports environment is highly dynamic. With an aim to develop a framework that contributes to theories on decision-making (in sport) as well as to athlete centred practice we will discuss relevant theoretical and methodological ideas that emerge from a growing body of literature in the Interpersonal coordination dynamics in sports Harjo de Poel (University of Groningen)

Modeling intra- and inter-team spatial interaction in team sports.

Sofia Fonseca (Faculty of Physical Education and Sports, ULTH, Portugal)

Team sports can be seen as complex system where players, the agents of the system, interact continuously, forming a network of interactions that is ultimately responsible for a number of events that can be observed during the game, such as a goal or a fault.

Most of the events of interest in a game can be clearly identified by expert coaches or even educated spectators, but recognising the patterns of interacting behaviour that lead to those outcomes is not as evident given that those patterns result from a combination of multiple factors that go beyond a naked eye identification.

According to the information available at different levels - environment, task and individual - players act and interact with the others defining, changing and adjusting their position in the field depending, for example, on the type of interaction that is assumed at each moment.

In order to identify patterns of interaction between and within teams in team sports, we have considered a spatial approach for modelling the distribution of players in two different interaction schemes: absence of interaction and exclusive coupling. Based on these, reference values for each scheme were computed allowing the identification of each pattern of interaction across the duration of a team sports' game.

The 2007-2011 FEPSAC research project. Sport as an integrative tool in multicultural societies: an ethnic-cultural identity approach.

Organizer: A. Hatzigeorgiadis (University of Thessaly, Greece)

Discussant: X. Sanchez (University of Groningen, Netherlands)

The multicultural character of contemporary societies is progressively growing. Societies which until recently were relatively homogeneous, are now experiencing the expansion of the population with the addition of culturally different groups, which occasionally becomes a source of conflict. The issue of multicultural integration is therefore particularly important. Sport has been recognized as an important socializing agent because of the large number of participants that are attracted; nevertheless, sport is also likely to reinforce existing differences. Thus, organized attempts are required towards the goal of social integration, through the development of sports environments specifically designed to address these objectives. This symposium presents a project initiated by the European Federation of Sport Psychology (FEPSAC) regarding the integrative role of sport in contemporary multicultural societies. The first presentation focuses on an overview of the conducted research; a model of ethnic and cultural identity salience will be presented and the relevant constructs will be described; in addition measurement issues will be addressed. The second presentation focuses on individual differences; ethnic and cultural identity salience will be examined in relation to demographic characteristics and sport participation factors. The third presentation focuses on the role of motivational factors; motivational climate, autonomy support and controlling coaching behaviour will be examined as determinants of ethnic and cultural identity salience. Finally, the fourth presentation will address issues regarding to the practical implication and the development of interventions aiming to promote the integration in contemporary multicultural societies through sport.

Ethnic and cultural identity: concepts and measurement.

A. Hatzigeorgiadis (University of Thessaly, Greece)

A-M. Elbe (University of Copenhagen, Netherlands)

X. Sanchez (University of Groningen, Netherlands)

F. Ries (University of Seville, Spain)

A. Pappous (Univesrity of Kent, UK)

O. Kouli (Democritus University of Thrace, Greece)



The purpose of this presentation is to introduce the ethnic-cultural identity approach to the integrative role of sport in multicultural societies, and describe the conceptualization and assessment of ethnic and cultural identity. The ethnic-cultural identity salience has been suggested as an important determinant of social integration in multicultural groups. Ethnic identity salience reflects the degree to which individuals hold their ethnicity to be of importance, whereas cultural identity salience reflects the degree to which individuals hold the larger culture to be of importance. Depending on ethnic and cultural identity salience, individuals may evaluate their group or the culture they live in positively or negatively, and may be more or less involved in ethnic or cultural practices. The Ethnic - Cultural Identity questionnaire, assessing two dimensions of Ethnic Identity (Ethnic Belonging and Feelings of Fringe) and two dimensions of Cultural Identity (Assimilation and Lack of Interaction), was translated into the different languages. Preliminary psychometric evaluation provided support for the multi-cultural use of the instrument and brought to the attention issue for consideration. The instrument was edited in the individual languages and administered for the final stage of the project. Confirmatory factor analysis for the second set of data further confirms the structural validity of the instrument (CFA: .94). Overall, the ethnic-cultural identity salience approach seems to provide a useful framework for the study of multicultural integration through sport.

Ethnic and cultural identity in young athletes across Europe: individual differences.

A-M. Elbe (University of Copenhagen, Denmark)
X. Sanchez (University of Groningen, Netherlands)
F. Ries (University of Seville, Spain)
O. Kouli (Democritus University of Thrace, Greece)
A. Hatzigeorgiadis (University of Thessaly, Greece)

This presentation focuses on the examination of ethnic and cultural identity salience as a function of individual differences. The Ethnic-Cultural Identity (ECI) questionnaire, which comprises the four dimensions ethnic belonging, feelings of fringe, assimilation, and lack of interaction, was administered to athletes from 4 European countries (Denmark, Germany, Greece and Spain). The sample consisted of 992 young athletes (725 males and 258 females) with a mean age of 15.27 (\pm 2.07) years and mean participation in organized sport of 5.63 (\pm 3.71) years. Two hundred sixty-three were individual sport athletes, whereas 729 were team sport athletes. The four ethnic-cultural identity dimensions were examined in relation to demographic characteristics and sport participation variables. Among participants with dominant background, significant effects were found for country of residence, sex, type of sport and level of participation. Relationships between dimensions of ECI and age or sport experience were generally low. Adequate data to allow comparisons between athletes with dominant and non-dominant cultural background were obtained from two countries (Greece and Spain). The analyses revealed a significant background by country interaction showing different patterns of differences in ECI between athletes with dominant and non-dominant background for the two countries. Overall, the data provide useful information regarding the influence of demographic and sport variables on dimensions of ethnic and cultural identity salience which should be considered when designing interventions for the different group targets.

Motivational correlates of ethnic and cultural identity in the sport context.

O. Kouli (Democritus University of Thrace, Greece)
A. Hatzigeorgiadis (University of Thessaly, Greece)
A-M. Elbe (University of Copenhagen, Denmark)
F. Ries (University of Seville, Spain)
J. Fernandez Gavira (University of Seville, Spain)
X. Sanchez (University of Groningen, Netherlands)

This presentation focuses on the examination of the relationships between ethnic and cultural identity salience and motivational factors in the sport environment; in particular, motivational climate, autonomy support, and controlling coaching behaviour. Participants were 972 young athletes from 4 European countries, Denmark (n = 106), Germany (n=255), Greece (n=243) and Spain (n=368). Participants completed the Ethnic-Cultural Identity questionnaire, comprising four identity dimensions, ethnic belonging, feelings of fringe, assimilation, and lack of interaction; the Motivational Climate Scale for Youth Sport comprising two motivational dimensions (task oriented climate and ego oriented climate); the Sport Climate Questionnaire assessing autonomy support; and the Coaches' Controlling Interpersonal Style which comprises the four dimensions of controlling



behaviour, rewards, negative conditional regard, intimidation, and excessive personal control. Canonical correlation was calculated to examine the multivariate relationships between the ethnic-cultural identity dimensions and the sport motivational factors. The analysis showed that task oriented motivational climate in particular and autonomy support to a lesser degree were positively related, whereas ego oriented climate and controlling coaching behaviour were negatively related to integrative patterns of ethnic and cultural identity characterized by high cultural attributes (positive assimilation and high negative lack of interaction) and moderate ethnic identity attributes (high negative feelings of fringe and low positive ethnic belonging). The present findings can provide the foundation on which interventions to promote integration through sport should be designed and developed.

Implications and development of interventions to promote ethnic-cultural integration through sport.

F. Ries (University of Seville, Spain)
A. Pappous (University of Kent, UK)
J. Fernandez Gavira (University of Seville, Spain)
X. Sanchez (University of Groningen, Netherlands)
A-M. Elbe (University of Copenhagen, Denmark)
A. Hatzigeorgiadis (University of Thessaly, Greece)

This presentation focuses on the practical interpretation of the project findings for the development of guidelines and applications to promote integration through sport in young athletes from different ethnic and cultural backgrounds. Based on the key findings of this project several issues can be raised. First, aspects related to the motivational environment were shown to be important. In accordance to the literature on moral and social outcomes, a task-mastery oriented climate was the most adaptive and influential motivational factor. In addition, autonomy support was also related to adaptive integrative patterns. The principles of these two theoretical approaches should be considered and directed towards integration goals. Second, individual differences was another important factor to consider. The results showed differences between the different countries, but also in relation to personal characteristics, such as sex and sport characteristics, such as individual versus team sports. Therefore, interventions should be developed based on key principles identified above, however, they should be adjusted to the particular context to which they take place. Guidelines and directions for the development of such interventions based on the above findings are further discussed and ideas for the effective promotion of integration are presented. Among the intervention approaches particular attention will be given to the Intergroup Contact Theory, an approach that has focused on reducing intergroup bias, and has become one of the most influential theories in the field of intergroup relations.

Role, assessment and application of mindfulness in elite sport.

Organizer: Emilie Thienot (University of Western Australia - WAIS, Australia)
Discussant: Jean Fournier (INSEP, French Institute of Sport, France)

The concept of mindfulness, defined as a particular way of paying attention in the present-moment and non-judgmentally (Kabat-Zinn, 1994), is gaining credit and is being increasingly used in mainstream psychology. The introduction of mindfulness to sport has raised several issues in performance psychology. This symposium aims to discuss the role, the underlying mechanisms and their potential effects on sport performance. In this symposium, the first presentation will both offer some theoretical underpinnings and evoke the possible role of mindfulness-based interventions within the psychological skills training framework for high intensity sport. The second presentation will expose the preliminary results of a tool designed to assess various components of mindfulness in sport. The third and fourth presentations will illustrate some applications of mindfulness-based interventions among elite populations (i.e., snowboarder cross; Nordic combined; ice-skating). Methods of interventions will be presented (i.e., individual intervention; group intervention; collaboration with coaches) with examples in each sport. In particular, the fourth presentation will emphasize the importance of individualizing mindfulness interventions and its effects on performance. Finally, the fifth presentation will suggest a general strategy for introducing mindfulness-based interventions within a national governing body. In summary, these five presentations will provide a snapshot of the theoretical and practical adaptation of mindfulness based intervention in elite sport.

Objective requirements of a certain sport and dimensions of mindfulness.



Daniel Birrer (Swiss Federal Institute of Sport Magglingen, Federal Office of Sport, Switzerland)

Since numerous beneficial effects of mindfulness-based therapy have been repeatedly documented, mindfulness-based interventions have gained interest of sport psychology practitioners and scientists. Despite this growing interest, it is far from being clear what mindfulness exactly is and which components of mindfulness relate to positive effects in therapy. Having this in mind, it is not a surprise that a framework to integrate the concept of mindfulness into psychological skills training programs is missing. As research on the effectiveness and underlying mechanisms of mindfulness for performance enhancement is in the beginnings, it seems to be important to tailor interventions on the basis of sport-specific psychological demands. However, the psychological demands vary from sport to sport and depend on numerous factors. The aim of this presentation is to propose some theoretical underpinnings to reduce these shortcomings. Therefore, a suitable model to systematically identify the psychological requirements of a certain sport will be presented. The possible role of mindfulness based interventions within the psychological skills training framework will be exemplified with a special focus on high intensity sports, e.g. rowing. It will be outlined which mindfulness dimensions could have which benefits on different required psychological skills, e.g. volitional skills and pain management. Possible underlying mechanisms are discussed, such as the activation of meta-cognitive processes, the avoidance of ironic mental processes, the improvement of emotion-focussing and the awareness of stress and recovery processes within a high-performance setting.

Development and validation of a measurement-tool: the Mindfulness Inventory for Sport.

Emilie Thienot (University of Western Australia - Western Australian Institute of Sport, Australia)

Ben Jackson (University of Western Australia, Australia)

James Dimmock (University of Western Australia, Australia)

Bob Grove (University of Western Australia, Australia)

Jean Fournier (INSEP, French Institute of Sport, France)

In sport, mindfulness is conceptualized as a process involving three dimensions: (1) the ability to be aware of thoughts, emotions and bodily sensations in the present-moment (i.e., meta-awareness); (2) a non-judgmental attitude towards these internal events; (3) the ability to remain focused (or quickly refocus) upon performance-relevant cues in the face of task-irrelevant triggers (Thienot et al., 2010). Drawing from this conceptualisation, the aim of this study was to develop and evaluate the psychometric properties of a sport-specific measure of mindfulness. On the basis of existing research, an initial pool of 45 items was first generated and was reviewed by external experts for face validity. The resultant scale, referred to as the Mindfulness Inventory for Sport (MIS), consisted of a battery of 30 items reflecting meta-awareness (10 items), non-judgmental attitude (10 items), and refocusing (10 items). In order to examine the structural properties of this scale, the measure was completed by a sample of 370 undergraduate sport science students (Mage = 20.35, SD = 3.65). Principal component analyses were conducted using a Promax (i.e., oblique) rotation. Based on eigenvalues and visual inspection of scree-plots, and following the removal of problematic items (i.e., low loadings; cross-loadings), analyses revealed that 19 MIS items loaded onto three distinct factors (variance explained = 47%, all item loadings > .40). As well as further psychometric examination of the MIS, future research using this scale may enable sport psychology researchers to explore the important sport-based variables that both influence and are influenced by mindfulness.

Mechanisms and effects of a mindfulness-based intervention in young elite skaters.

Marjorie Bernier (INSEP, French Institute of Sport - University of Occidental Brittany, Brest, France)

Following the third wave of cognitive and behavioral approaches in mainstream psychology, some recent sport psychology interventions have been based on mindfulness principles and techniques (e.g., Bernier et al., 2009; Gardner & Moore, 2007). The present study aimed to explore the mechanisms and the effects of a mindfulness-based intervention conceived for performance enhancement and applied to seven young elite skaters over a ten-month period. The intervention program consisted in three parts: (a) mindfulness skills training, (b) attentional focus training for the long and short programs, (c) application in competition situations. A multiple case study design was used to explore how young elite athletes can learn, understand and apply the mindfulness processes and to assess the effects of the intervention on their mindfulness skills and on their



performance. It gathered different data from interviews with participants and coaches, added with scores in competition (i.e., percentages of progress) and mindfulness skills measures with a tool conceived for the present study. Results showed that this mindfulness-based intervention had positive effects on mindfulness skills and performance improvement. Different individual profiles emerged and highlighted that the mindfulness skills development and application in competition should be considered a personalized processes. Discussion of the results deals especially with the necessary adaptation of mindfulness-based interventions for young athletes and suggests research and application perspectives.

Adaptation of mindfulness and ACT for athletes competing in Vancouver.

Emilie Pelosse (FFS, French Ski Federation, France)

The Department of Sport Science of the French Ski Federation (FFS) targets different domains related to biomechanics, physiology, and psychology. Services are applied to various competitive levels of each winter sport. For elite performance, we provide three types of services: 1) collecting implicit and explicit athletes' and coaches' needs, 2) conducting applied studies, and 3) offering performance enhancement services and tools to athletes and coaches. Regarding psychology, our main purpose is to develop mental skills programs dedicated to each discipline. According to the recent works of Gardner and Moore (2004), techniques inspired by the third wave of CBT have turned out to be useful in elite sport intervention. Nordic combined and snowboarding cross national teams have requested an adapted mindfulness and ACT program to prepare athletes for the Vancouver Olympic Games. The Nordic combined team used mental training for individual athletes. A six-step program was implemented to teach basic techniques of mindfulness, cognitive diffusion, and acceptance. The follow-up consisted in individual sessions with athletes after the Olympic Games, to assess how they used mindfulness in elite level competitive situations. With the women's snowboard cross team, we used a collaborative process that included the coach, who used the method in daily training. The program included the same six steps as for the Nordic combined one. Acquisition of the skills was achieved in groups, and completed by one on one sessions on the field during summer training. We will expose various tools that have been built to help athletes develop their mental skills.

Introducing mindfulness-based psychological skill training in elite sport.

Romain Codron (INSEP, French Institute of Sport - FFG, French Golf Federation, France)

Marjorie Bernier (INSEP, French Institute of Sport - University of Occidental Brittany, Brest, France)

Jean Fournier (INSEP, French Institute of Sport, France)

In sport, psychological skill training (PST) programs based on mindfulness are recent (e.g., Gardner & Moore, 2004 ; Moore, 2009). Therefore, sport psychology consultants need to learn how to introduce these 3rd wave cognitive behavioral types of intervention. The usual demand from the field continues to concern itself with stress management, self-confidence, emotional control, while popular PST methods in sport still address self-talk or cognitive restructuring. However, the protocols derived from the 3rd wave offer a rather different strategy for performance enhancement. This presentation will illustrate the various steps implemented for a national governing body. Rather than trying to promote the benefits of a new approach, we will present some of the various tools used to gain entry, to stimulate adherence or to reformulate an old question. Different tools and methods will be presented, along with the steps that we used to introduce this new method. We will put the emphasis on 1) the method used to present the new approach, calling into question the effectiveness of previous methods, and 2) on one example of the introduction of the approach with pistol shooting. With this example, we will present the strategy used to introduce mindfulness training to athletes, coaches and staff.



Football: the final frontier. Testimonials of successful introduction of mental coaching in professional football in Belgium.

Organizer: Kris Perquy (Maenhout & Perquy - Mental Coaching in Topsport, Belgium)

Discussant: Kris Perquy (Maenhout & Perquy - Mental Coaching in Topsport, Belgium)

Applied sport psychology has seen a rise in the previous decade, and certainly in individual sports the mental coach or sport psychologist is seen as an added value to the support team of the athlete. In team sports the rise has been slightly more difficult. With a return on investment that is not always easy to measure, professional sport teams have been hesitant in adding a sport psychologist to their staff. Professional football in Europe has been no exception and can even be considered as a conservative bastion, demonstrating great reluctance to accept sport psychology (both from a player perspective and from a managerial perspective). Recent examples of initiatives in Belgian professional football illustrate that this trend is changing and that the role of sport psychology is gaining maturity. In this symposium on sport psychology in Belgian professional football, three decision makers will present their experience, from a club perspective (both senior squads and youth development) and from a national team perspective. Mr. Marc Van Geersom, Head of Youth Development at the Belgian Football Association (KBVB) will discuss how the Association uses in-depth mental profiling as a starting point for the individualized coaching of the young international players (ages 16 to 19). Mr. Yvan Vandamme, Managing Director of Cercle Brugge, will present the boardroom view on the added value of sport psychology with his experience from the past 3 seasons, and finally Mr. Henk Mariman, Sports Manager at Club Brugge, will offer an insight in his vision and framework of the Youth Academy at Club, with a special focus on the mental aspects.

Belgian National Football Association (KBVB) - Individualized coaching of youth internationals (U19) using mental profiling and personality types.

Marc Van Geersom (Head of Youth Development at the Belgian Football Association, Belgium)
Kris Perquy (Mental coach at Maenhout & Perquy, Belgium)

The assessment methodology is an objective tool to evaluate individual competencies of athletes, involving multiple raters, multiple dimensions (traits or competencies) and multiple measurement situations. The aim was to obtain an accurate picture of the mental capacities of the young football players as a tool to help the coach and assistant coach fine-tune their coaching approach. A competency framework involving 6 key success criteria was used (concentration, emotional control, confidence, perseverance, self-development, team-focus). The players were profiled during a pre-tournament training session (Brussels, July 2010), an international friendly double-header (Montenegro, August 2010), and two friendly games (Germany, September 2010 and Ukraine, March 2011). Two psychologists used a multi-trait assessment methodology with questionnaires (personality typing, mental capacities inventory and motivation), competency based interviews and structured observations of training sessions and games to draw up detailed mental profiles of 25 international youth players (18 years old). The staff (coach and assistant coach) were trained in the concept and its applications in a 1,5 day workshop and a 2 hour follow-up session. The results (team report and individual player profiles) were presented to the staff in September and provided detailed input for an individualized approach of the players during the qualifying tournament held in Belgium (October 2010), during which the Belgian U19 team qualified for the next round. The presentation will conclude with some concrete recommendations on how sport psychologists can apply this methodology with footballers of different age groups at the elite level.

Mental coaching as an essential part of elite youth player development at FC Bruges - a testimonial from the youth academy.

Henk Mariman (Sports Manager and former Director of Youth Academy at FC Bruges, Belgium)

FC Bruges is one of the top teams in the Belgian Premier League and has been competing on a national and international level for the past decades. In order to improve the quality of the youth development and increase the amount of youth players securing their place in the first squad, FC Bruges hired one of the leading practitioners in Belgian youth football, Henk Mariman (formerly Head of Youth Academy at Germinal Beerschot



Antwerpen). He introduced a new vision and a framework for youth development, redesigned the structures and processes in the Academy and built a competency model that added mental components to the existing football capacities. Youth coaches were involved in the design of the new competency model (the mental capacities needed for the young football players to be successful at FC Bruges) and were trained to observe and evaluate expected behaviors from their players. The challenge here was to integrate the sport psychology concepts into workable tools for the coaches on the field. The mental component was also added to the scouting reports and included in the performance evaluation process. Mr. Mariman will present lessons learned, the obstacles encountered and will conclude with some recommendations for applied sport psychologists wishing to work in professional football at the elite youth level.

From the boardroom: added value of a sports psychologist in professional football - a testimonial from Cercle Bruges (Belgian Premier League).

Yvan Vandamme (Managing Director KSV Cercle Brugge, Belgium)

Cercle Bruges is a small organization in the Belgian Premier League with a distinct culture and identity, focusing on family values, strong ties with the city of Bruges, a healthy financial structure, professionalism and social responsibility. The Managing Director will present the rationale for the decision of hiring a sport psychologist and he will describe the projects where this sport psychologist contributes to the professionalization of the organization. Both with the senior squad (the professional players) and the youth teams (ages groups 16 and above), for the last 3 seasons. Projects that will be described include the recruitment process, the screening and introduction of new players, the team building initiatives with the first squad, the yearly mental profiling of players and youth players, the individual coaching of players and coaches and members of the management team. The results of these projects will be commented upon from this boardroom perspective, the top of the organization. The presentation will conclude with some recommendations for sport psychologists aiming to present their services to professional football organizations.

Optimising talent development.

Organizer: Dave Collins (University of Central Lancashire, UK)

Discussant: Paul Wylleman (Vrije Universiteit Brussel, Belgium)

The transformation of talented youngsters into senior world-beaters is a topic of interest for sport practitioners and researchers alike. While our understanding is rapidly expanding in this area, the dissemination of this research to help facilitate the optimisation of this process is lacking. At least, the number of initiatives which often contradict such evidence would suggest so.

Accordingly, this symposium offers an overview of key themes apparent in the literature that have relevance to the effective development of talent. Following a critical review of the literature to practice picture, with a particular focus on current processes in the UK, we present three linked papers examining the optimum factors associated with the individual, the environment and the system. In all cases, theoretical evidence and empirical backup is linked directly to practice consequences.

Optimising talent development: are we getting it (spectacularly) wrong?

Dave Collins (University of Central Lancashire, UK)

Given the clear importance of Talent Identification and Development (TID) there seems to be a surprising lack of coherent and evidence-based direction on how programmes may be most efficaciously designed, deployed and directed (Collins & Bailey, 2010). System design is currently subject to a plethora of influences, ranging from the financial and political through to ill placed, quasi-scientific methods. Many of these approaches, although they appear face valid, are implemented with few of the requirements for evidence-based justification which characterise the expectations applied to other areas of governmental organisation (e.g. NICE in the UK). A similar issue seems common in other TID-related initiatives such as centrally organised schemes for Talent Transfer, with complete structures and even new professions (e.g. <http://www.eis2win.co.uk/pages/TalentIdentification.aspx>) generated and implemented without apparent



empirical or theoretical support.

As a basis for more positive and evidence-based ideas in the rest of this symposium, this first paper offers a critical overview of approaches in Western Europe, with an emphasis on the government driven systems currently apparent in the UK. Our consideration takes account of the nature of 'evidence' in TID, contrasting the strong case made by some retrospective studies (e.g. Van Yperen, 2009) against the comparatively weaker picture apparent in many of the 'new models' currently on offer. We also offer evidence-based speculation against the percentage variance contributions of the various factors chosen in typical TID schemes; a selection which seems to exhibit an inverse relationship between frequency of use and predictive power.

Optimising talent development: the individuals.

Aine MacNamara (University of Central Lancashire, UK)

In order to optimize Talent Identification and Development (TID), empirical research must be undertaken that provides evidence of the mechanisms that underpin progression and transfer in and between sporting activities. This presentation attempts to address gaps in TID research and practice by moving away from descriptions of (in)appropriate developmental experiences towards a consideration of the processes that propel progress towards excellence. Accordingly, a series of studies are presented that focus on the importance of ensuring that aspiring elites have the best chance of becoming successful by equipping them with the psychological skills identified as prerequisites for learning and development. This burgeoning body of research suggests that Psychological Characteristics of Developing Excellence (PCDEs) equip aspiring elites with the necessary skills to cope with the inevitable challenges of the development pathway, as well as underpinning their capacity to make the most of their innate abilities and opportunities. A key finding concerned the differential deployment of PCDEs relative to the individual's age, focus, stage of development/level of maturation, and performance domain. Accordingly, possession and systematic development of PCDEs seems a logical step, allowing aspiring elites to interact effectively with the developmental opportunities they are afforded by providing them with the capacity and competencies to strive to reach their potential. This approach would seem to hold considerably more promise, in terms of talent development and retention, than TID initiatives that are attempting short-term solutions aimed at "plugging talent gaps" (Vaeyens et al., 2009).

Optimising talent development: the environment.

Aine MacNamara (University of Central Lancashire, UK)

The transformation of talented youngsters into senior world-beaters is a topic of interest for sport practitioners and researchers alike. While our understanding of effective processes is rapidly expanding in this area (Vaeyens et al., 2008), in practice, there still appears to be a heavy emphasis on traditional and socially supported (but flawed) identification and development philosophies. For example, age group coaches are often rewarded for age group and short term success rather than for facilitating the development of young athletes into successful world class performers (Martindale & Mortimer, 2010). Furthermore, many parents still seem to value and encourage early specialisation and a 'must win' attitude, even though de-emphasising 'winning' through developmental stages has been shown to be most productive for talent development (Durand-Bush & Salmela, 2002). Given the disparity in research understanding and applied practice, Martindale and colleagues offered a concise overview of the key features of effective talent development environments that emerged consistently in the literature. These features are discussed in relation to their evidence, applied exemplars and in contrast to some common but misplaced practices. Finally, ideas to help facilitate the application of research findings to practice are presented.

Optimising talent development: the system.

Dave Collins (University of Central Lancashire, UK)

Based on the strong role played by psychological and socio-psychological aspects in the TID process, we present a systemic approach, based on increased inter-agency cooperation and coherence (cf. Kotter, 1995) as offering the best potential for progress. Consideration of the broader role of TID is offered, supporting the contribution which can be made to not only elite sport but also to lifelong physical activity participation and



even to achievement in other spheres (cf. Bailey et al., 2010; Collins et al., in press).

As exemplifications of this 'ideal' process, we offer evidence from a variety of sources. Firstly, we present school-based, educational initiatives as an effective but also essential feature of holistic programmes. The 'captive audience' and formative environment offered by the school has been shown to provide an ideal environment for the enhancement of performance-specific (e.g. Collins et al., 2010) and generic progress (e.g. Koka & Hagger, 2010) which exhibit strong transfer to other aspects of life (Chatzisarantis & Hagger, 2009). As a second characteristic, we consider management procedures and objective setting/feedback in three contrasting systems, professional football, rugby and tennis. Specifically, we consider how these systems differentially influence the conduct and style of the developmental pathway which, in turn and almost inevitably, impacts of progression volume and quality. Finally, we look at the two way flow of political influence (cf. Bevir, 2006) which must be a key consideration in the design and deployment of optimum TID systems, and arguably in a much wider context (Butcher & Clarke, 2008).

Psychological resilience: human performance, wellbeing and health.

Organizer: David Fletcher (Loughborough University, UK)

Discussant: Mustafa Sarkar (Loughborough University, UK)

The topic of psychological resilience has received surprisingly little attention in relation to human performance, wellbeing and health. This symposium seeks to raise awareness of the importance of this construct and to report the findings from recent research in this area. The symposium is divided into four presentations. The first reviews and critiques the variety of definitions, concepts and theories of resilience. It is hoped that synthesizing what is known in this area will help elucidate the nature of this complex phenomenon and guide future research development. The second presentation identifies the characteristics of resilience in high achieving individuals. Semi-structured interviews were conducted with thirteen high achievers from eleven performance domains and data was analyzed via Interpretative Phenomenological Analysis (IPA). The third presentation explores how individual resilience is linked to end of first year University students' academic performance. Resilience was assessed at the start of the first year among 1485 undergraduate inductees to a single UK university. The fourth and final presentation explores resilience, health, and wellbeing among former athletes who are now spinal cord injured and their families. The research is grounded in the field of positive psychology and informed by narrative theory. The symposium concludes with an open discussion of the important issues for advancing understanding of psychological resilience in relation to human performance, wellbeing and health.

Psychological resilience: a review and critique of definitions, concepts and theory.

David Fletcher (Loughborough University, UK)

Mustafa Sarkar (Loughborough University, UK)

Psychologists' understanding of human functioning in demanding situations has developed rapidly over the past two decades, with resilience being examined across a range of contexts. However, one of the main difficulties in conducting research on resilience is that wide discrepancies exist in the way that resilience is defined and conceptualized. This definitional debate is important to highlight since concepts provide researchers with theoretical boundaries that help determine the nature, direction and veracity of research inquiry. The purpose of this paper is, therefore, to review and critique the variety of definitions, concepts and theories of resilience. It is hoped that synthesizing what is known in this area will help elucidate the nature of this complex phenomenon and guide future research development. To this end, the narrative is divided into three main sections. The first considers the different ways resilience has been defined and discusses the need for lucidity in defining two pivotal concepts related to resilience: adversity and positive adaptation. The second section examines how resilience has been conceptualized and explores how it is distinct from a number of related terms, namely recovery and coping. The final section reviews the theories of resilience and critically examines one theory in particular that is commonly cited in the resilience literature: Richardson (2002) and colleagues (1990) metatheory of resilience and resiliency. The commentary concludes with the key messages to emerge from the review and critique of the literature.



A qualitative study of psychological resilience in high achievers.

Mustafa Sarkar (Loughborough University, UK)

David Fletcher (Loughborough University, UK)

Resilience research has predominantly focused on identifying the qualities of individuals who are required largely through no choice of their own - to react to potentially traumatic events in their lives. Importantly, due to the contextual specificity of resilience, the findings of this work are not easily applicable to high achievers who actively seek to engage with challenging situations that present opportunities for them to raise their performance level. The purpose of this study is, therefore, to identify and explore the characteristics of psychological resilience in a wide range of high performing individuals. Thirteen high achievers (9 men and 4 women) from eleven professions were interviewed and interpretative phenomenological analysis was used to identify themes within their accounts. The procedures of reflexivity, bracketing, and peer debriefing were employed to ensure the methodological rigor of the research. Results revealed six superordinate themes that characterized resilience in this group of high achievers. These were: a positive and proactive personality; experience and learning; a sense of control; flexibility and adaptability; balance and perspective, and; perceived social support. In view of these findings, research and practice should pay careful attention to the attributes associated with resilience in the face of regular everyday hassles like work stress, since they differ somewhat to resilience against occasional extensive stress such as bereavement. It is anticipated that these themes will provide a variety of psychologists with an insight into the distinct features of resilience in high achievers, and help employees to attain success and well-being in their careers.

Psychological resilience and academic achievement in university inductees.

John Allan (Leeds Metropolitan University, UK)

Jim McKenna (Leeds Metropolitan University, UK)

Given that individuals who rebound from setbacks to improve functioning are considered psychologically resilient, this quality may also help to optimise students' functioning and heighten prospective, educational attainment. In this study we explored how individual resilience was linked to end of Year 1 degree classifications. Resilience was assessed at the start of the first year among 1485 (710 Females) undergraduate inductees (mean age 18.60 SD 1.48) to a single UK university. From a validated self-report scale (Connor & Davidson, 2003) we calculated total resilience (0-100) and five contributory subscale scores of (i) Competence (0-32), (ii) Trust (0-28), (iii) Change (0-20), (iv) Control (0-12), and (v) Spirit (0-8). A two-step cluster analysis was then undertaken to generate homogenous groups of resilience based on gender, total resilience and subscale scores. These clusters were then cross tabulated with end of first year grade classifications. Four clusters emerged based on high and low resilience scores; each cluster comprised at least 300 students. Academically, males reporting high resilience were consistently outperformed by both female clusters. High resilience females achieved twice as many 2i classifications and three times more Firsts than their male counterparts. Equally, high male resilience on entry to Higher Education was linked to great levels of withdrawal, failing or achieving a third class classification at the end of Year 1. These findings suggest a diversified relationship between resilience and prospective academic performance, while also questioning the pursuit of 'high' resilience in male students.

Spinal cord injury and narratives of resilience, health and wellbeing: a qualitative project.

Brett Smith (Loughborough University, UK)

Joanna Kirkby (Loughborough University, UK)

Why, after a traumatic sporting injury, do some individuals and families adapt more successfully than others and positively grow as a person? What psychological and social characteristics of the person or family lead to this difference? The purpose of this paper is to examine such questions by exploring resilience, health, and wellbeing among former athletes who are now spinal cord injured and their families. It is the first research to do so. The research is grounded in the field of positive psychology and informed by narrative theory. Drawing on qualitative data, including data from life story interviews and the visual method of auto-photography, we highlight how resilience is experienced and given meaning by spinal injured adults and their families. What facilitates and impedes resilience is also highlighted and the outcomes of resilient behaviour for health and wellbeing are underscored. The paper closes by critically addressing questions related to resilience definitions, theory, and methods.



Emotions and decision-making.

Organizer: Sylvain Laborde (German Sport University, Germany)

Discussant: Markus Raab (German Sport University, Germany)

During the last decade, the topic of decision-making received a strong interest in sport psychology. However, when examining athletes' decisions, one parameter was so far neglected: the emotional state of the individual. This symposium is aimed to gather works from different perspectives to understand the influence of emotions on decision-making in sport. First, based on a cognitive theoretical framework, the option generation process of athletes was investigated, under various emotional conditions. Afterwards, the influence of individual differences linked with emotions (i.e., preference for intuition and deliberation, emotional intelligence, coping) on decision-making was explored. However, in sport, not only the athletes have to make decisions, but also the coaches. Therefore, the relationship of their leadership style with emotional intelligence was investigated. Adopting another theoretical background, the ecological perspective was then used to understand how emotions considered as individual constraints might influence players' dynamics. Finally, sport is not only a matter of quick decisions on the field, but also of long-term decisions. Therefore, the influence of stress and emotions on careers decisions was explored. To conclude, a broad spectrum of the scientific work in the field is presented here, based on different theories (i.e., cognitive and ecological), involving different actors (i.e., athletes and coaches), and using various methodologies (e.g., experimental work with physiological measures, questionnaires, qualitative interviews...). Consequently, we strongly believe that this symposium will bring a fruitful insight on the need to take into account emotions when one is aimed to understand decision-making in sport.

The influence of emotions on the option generation process of athletes.

Sylvain Laborde (German Sport University, Germany)

Introduction:

Decision-making, a key parameter in sport performance, received recently a strong attention in the literature. However, an important aspect of sport decisions was so far neglected: the emotional state of the athlete making a decision. This research was aimed to understand how emotions influence the option generation process of handball players.

Method:

Ninety male handball players (30 non-experts, 30 near-experts, and 30 experts) were involved in this study. The experimental task was an option-generation task, with 31 3D videos of handball attack situations. A between-subject design was used, with three emotional conditions: positive, neutral, or negative. Emotions were manipulated using music, imagery, and success and failure feedback; they were assessed using subjective (i.e., PANAS) and physiological measures (i.e., galvanic skin resistance, heart rate and heart rate variability).

Results:

First, T-tests on subjective and physiological measures of emotions showed that the emotional manipulation was successful. Second, a 3 x 3 MANOVA (3 expertise level x 3 emotional session) revealed a main effect of expertise on six dependent variables linked with decision-making, but no main effect of the emotional session on these variables. Third, correlations were found between physiological variables (i.e., heart rate variability) and decision-making variables.

Discussion:

Results showed that the option generation process of handball players was influenced by the physiological component of emotions, but not by the subjective one. These findings have an impact on both the theoretical and the applied point of view, in order to help athletes to be in the best dispositions to make decisions.

Individual differences, emotions and decision-making.



Anne Brüll (German Sport University, Germany)

Introduction:

This study was aimed to understand the effects of individual differences linked with emotions on decision-making (DM). We assumed that a preference for intuition would result in faster responses and thus has a direct influence on DM. We also hypothesized an indirect relationship of emotional intelligence and coping strategies with decision-making through their influence on subjective emotions and physiological measures.

Method:

Ninety handball players were involved in the experiment. They had to participate to an option-generation procedure (via verbal protocol). As outcome measures, their choices and decision time were recorded, as well as physiological variables (i.e., skin conductance, heart rate and heart rate variability). The participants had also to complete questionnaires about subjective emotions, coping strategies, intuition and emotional intelligence.

Results:

Firstly, players with a higher preference for intuition generate faster their first choice, and they needed less time to generate their different choices. Secondly, coping strategies and emotional intelligence were found to be correlated with subjective emotions and physiological variables, which were in turn correlated with decision-making variables.

Discussion:

As it was found in previous studies, the preference for intuition was linked with faster and better decisions; and emotional intelligence and coping strategies were found to influence the way athletes cope with stress. Finally, the decision-making process of athletes is influenced directly (i.e., intuition) and indirectly (i.e., emotional intelligence and coping) by individual differences linked with emotions.

Emotional intelligence and leadership style of soccer coaches.

Anne Milek (German Sport University, Germany)

Babett Lobinger (German Sport University, Germany)

Philipp Kaß (German Sport University, Germany)

Objective:

Empirical evidence exists that leaders of business organizations with high emotional intelligence (EI) make better decisions in difficult social situations (Jordan et al. 2002) and are likely to have more success (George, 2000). A coach, leading a professional soccer team, faces similar challenges as a business manager. However, there is a desideratum of research linking EI as a trait to specific behavioral leadership aspects in sports. The present study examines the extent to which EI of soccer coaches is systematically associated with different leadership styles.

Method:

158 soccer coaches (all male, age 18 to 61, lower league to premier league) completed an online questionnaire accessing the "Trait Emotional Intelligence Questionnaire - Short Form" (TEIQue-SF; Petrides, 2009) and the "Leadership Scale for Sports" (LSS; Würth et al., 1999).

Results:

Findings show positive associations between certain leadership styles and the TEIQue - subscales, indicating that coaches who report high well-being, emotionality, self control or social competence also claim to provide more social support and use training and instruction based leadership styles. Interestingly, professional coach experience (in years) correlated negatively with emotionality ($r = -.17$, $p = .041$), whereas a positive association between age and self control competence ($r = .23$, $p = .004$) could be found.

Discussion:

The study succeeded in providing empirical evidence for a link between emotional intelligence and the way soccer coaches describe their leadership styles. Practical implications of those findings for the education of soccer coaches and the significance of self-monitoring are discussed.



Individual constraints channel decision-making in sport.

Duarte Araújo (Faculty of Human Kinetics, Technical University of Lisbon, Portugal)

Rita Codovil (Faculty of Human Kinetics, Technical University of Lisbon, Portugal)

Although team games conceptualised as ecological dynamic systems engender a view of emergent decision-making behaviour under constraints, specific effects of individual constraints such as emotions during practice need to be empirically verified. Some studies already start to demonstrate how individual constraints such as bodysculling channel decision making. For example, in a study (Codovil et al., 2009) we showed that height had a greater effect than arm span on emergent dynamics of decision-making in dyads. When attackers were considerably taller than defenders, there were fewer symmetry-breaking opportunities than in the majority of other combinations. The analysis of individual situations indicated that interpersonal distance and the difference of velocity between the athletes can be considered candidate control parameters of the system that cause the emergence of decision-making.

In this presentation we will report experiments that reveal the importance of specific constraints on emergent decision-making, since the manipulation individual constraints clearly influenced players dynamics. These findings and their ecological dynamics rationale will be extended to the role of emotions on decision making in sport. A better knowledge of the constraints that shape decision-making might be important not only for guiding beginner athletes, but also to help more experienced athletes to discover and explore novel solutions.

Careers decisions: influence of stress and emotions for expatriate athletes.

Min You (University of Caen, France)

Introduction:

Among professional expatriate athletes, the stress due to expatriation is added to the stress of the competition. The objective of this study is to enlighten the relationship between competitive and non competitive stressors with athletes' career decision-making.

Method:

Seven professional expatriate table tennis players from the French first national league, and three persons involved in their table tennis practice were interviewed according to the principles of grounded theory (Charmaz, 2006).

Results:

The number of non competitive stressors was more important than the number of competitive ones. Moreover, for the expatriate players, the number of stressors linked with the decision of expatriation is higher than the number of stressors which are not linked with expatriation.

Discussion:

Stressors linked with expatriation will influence athletes' career decision-making. This area should thus receive a stronger attention in order to provide appropriate support to expatriate athletes.

Education of applied sport psychologists; a 360 degrees perspective.

Organizer: R.I. (Vana) Hutter (Vu University Amsterdam, Netherlands)

Discussant: Paul Wylleman (Vrije Universiteit Brussel, Belgium)

With the increasing acceptance and demand for sport psychological services across Europe, the need for well-trained applied sport psychologists is growing. Although there are several excellent programs available to study sport psychology, students often express the need for more applied knowledge and skills than currently offered in most universities. Training professionals for applied practice therefore appears to be a challenge for educational institutions.

In this symposium the education of applied sport psychologists is discussed from different angles, aiming to give a 360 degrees perspective on education of sport psychologists. Presenters are all affiliated with a post-master program in applied sport psychology, making them 'field experts' in different roles, namely: program manager,



teacher, supervisor and student. They present their view on education of applied sport psychologists and share learning opportunities with the delegates. Their presentations will be discussed from an international and research perspective by the discussant.

Education of applied sport psychologists: a program manager's perspective.

R.I. (Vana) Hutter (Faculty of Human Movement Sciences, VU University, Netherlands)

An education program for applied sport psychologists starts with a well-designed curriculum, experienced teachers, a clear vision on the skills and knowledge required in professional sport psychology and the teaching methods to match this vision. The job of a program manager is in principle two-fold: First, he or she is responsible for the quality of the program, by looking after the execution of the curriculum and guarding the mission and vision throughout the program. Secondly, he or she is responsible for the many organisational aspects involved in running the program, such as hiring and directing teachers, taking care of teaching materials, execute evaluations, keep an eye on the well-being of the students in the program and deal with issues that may arise in and around the classroom and practical experiences.

Initiating and managing an education program in applied sport psychology comes with many different organisational issues. Many affect the learning experiences of the students in the program. As an example the challenges in making different teachers collaborate with each other are presented. We encountered problems with both overlapping and 'gaps' between different modules. Moreover at times it was hard to have teachers comply with the overall learning objectives of the program. All these issues hinder the development and learning experiences of students in the program and therefore needed to be solved. Besides these solutions, the overall lessons the manager learned from the cooperation with the students, teachers and supervisors will be shared with delegates.

Education of applied sport psychologists: a student's perspective.

Barry Assen (Faculty of Human Movement Sciences, VU University, Netherlands)

When starting the post-master program in applied sport psychology, each student has already finished a master program in either psychology or sport sciences. Thus the students are knowledgeable in the field of sport psychology. The first challenge for them therefore is to find ways to implement this knowledge into practice. In other words, the main question is how to use the knowledge in order to help athletes enhancing their performance.

In this respect, a major advantage of the program is that the teachers are highly qualified sport psychology practitioners who have a lot of experience in working with (elite) athletes. Their willingness to share these experiences provides information that might be even more valuable than information from books and other literature.

A second challenge for the students is to develop their own identity as a sport psychologist. Each sport psychologist has a different view and is different in the way he or she works. For the students it is important to become aware of their own preferences and principles.

For this reason, in the modules a significant part of the time is spent on group discussions among the students. They are stimulated to share their opinions and insights about many topics related to sport psychology. Since the students differ in their backgrounds they can help each other by sharing information from their own area of specialization. These discussions help them to develop their own identity as a sport psychologist.

Education of applied sport psychologists: a teacher's perspective.

S. Beijerman (Private Practice, Faculty of Human Movement Sciences, VU University, Netherlands)

A teacher needs to provide the students with the more practical skills required to be a good sport psychologist. By the end of their programme students need to have knowledge of a broad range of sports, about the functioning of the human mind and body in performing-situations, be able to train a set of mental skills with clients and have the communication skills to address clients appropriately. This is the content of what



is learned.

On the other hand the teacher needs to train students in reflective skills. The students will mostly be working in the field as independent practitioners. This means that besides peer consultation with their colleagues, and feedback from their clients, to reflect on their own work is the most important tool for improving their performances as sport psychologists. The teacher invites his students not only to reflect on the way they approach their clients, but also on their own personality, personal beliefs, strengths and weaknesses as a sport psychologist.

Mostly the work of a teacher starts with the more practical skill training and shifts, gradually to more reflective practices as the students develop themselves.

An important lesson for me is not to start too early with reflective practices, because students first feel they need to know "what to do". A second lesson is that in order to train students to reflect on the deeper layers of their work, the safe setting of a classroom is perfect, as long as an open and accepting atmosphere is promoted.

Education of applied sport psychologists: a supervisor's perspective.

A.P. (Karin) de Bruin (Private Practice Karin de Bruin, Faculty of Human Movement Sciences, VU University, Netherlands)

Since it is practically impossible to obtain applied experience within the practices of qualified sport psychologists, at least in our current national situation, supervision plays a central role in the training of sport psychology students. It consists of supervising the delivery of performance-enhancement services, identifying the needs of both the sport psychology student and athlete-client, stimulating the students to apply self-reflection skills, dealing with transference and counter transference phenomena, and examining the relationship between supervisor and supervisee (Anderson, 1996). "When investigating the student's feelings of uneasiness and hesitations about the effectiveness of the way she introduced mental skills, she discovered that they were related to her own insecurity and need for variation rather than to the athlete's preferences and evaluations".

Formal responsibilities of the supervisor are caring for the welfare of both the client and sport psychologist student, contributing to the student's professional development, and, informally, being a good professional role model. Nevertheless, there is not much known about adequate supervision in sport psychology (Anderson, 1996).

Moreover, most the sport psychologists who were eligible to provide supervision lacked appropriate training and/or did not have a history of collegial supervision, which is not exceptional. Therefore, supervisors should actively participate in meta-supervision and providing supervision to the supervisors is essential. Ongoing evaluation will further help to improve the quality of the supervision.

Understanding doping behaviour - to inform prevention and intervention

Organizer: Anne-Marie Elbe (University of Copenhagen, Denmark)

Discussant: Arnaldo Zelli (University of Rome "Foro Italico", Italy)

Over the past years interest in the doping phenomenon from a social scientific perspective has been rapidly growing, resulting in an increasing number of publications on different aspects of the topic. Part of this is a result of the World Anti Doping Agency's funding of social science research, which goes beyond the traditional detection and deterrence approach and aims at understanding why some athletes dope and others do not. The following symposium will present the most current contributions sport psychological research can make to explain doping behavior. The presentations in the symposium will focus on the phenomenon from different perspectives (e.g. athletes, adolescents) as well as investigate possible underlying factors of doping behavior (e.g. athletes' appraisals; a dynamical approach to understanding doping, identity and stereotypes). The final presentation of the symposium will highlight an innovative online doping prevention tool that is based on the concept of ethical decision-making. Common ground of the different projects is to present knowledge that can enhance the effectiveness of doping prevention programs.

The use of legal and illegal performance-enhancing substances among Italian adolescents: the contribution of interpersonal appraisals to a social-cognitive analysis.



Fabio Lucidi (University of Rome "La Sapienza", Italy)

Luca Mallia (University of Rome "Foro Italico", Italy)

Arnaldo Zelli (University of Rome "Foro Italico", Italy)

In this study, the authors examined the rates of doping and legal supplement use among a sample of over 3400 Italian high school adolescents and estimated whether these rates varied systematically with adolescents' gender, age, and level of sport involvement. Furthermore, the study aimed at extending the general finding from prior research, that adolescents' intentions to use and actual use of doping substances are influenced by a set of beliefs concerning doping use, by also evaluating whether these belief systems influence changes in doping use over time. This hypothesis has been evaluated in a sub-sample of 1200 Italian high school adolescents. In addition, in a second sub-sample of nearly 900 adolescents, we also examined the novel hypothesis that adolescents' appraisals of interpersonal encounters in which they are solicited to use doping substances would moderate the relations linking beliefs to doping intentions and doping use. In line with international literature, the findings showed that doping use is a relatively rare phenomenon among high school adolescents, and that male, relatively older, and athlete students are significantly more likely to use legal and illegal supplements than their respective counterparts. The multivariate analysis of the relations among the key variables revealed that belief systems influenced adolescents' doping intentions, accounting for nearly 50% of their variance. Doping intentions, in turn, longitudinally influenced and accounted for nearly 75% of the variation in adolescents' doping use. Finally, additional multi-group analyses revealed that the overall effects on adolescents' doping intentions were particularly strong among those who made risky situational appraisals, as compared to those who showed no-risk appraisals.

Doping stereotype and personal identity - are they really different?

Jens Kleinert (German Sport University Cologne, Germany)

Sabine Jüngling (German Sport University Cologne, Germany)

Identity is an important source of motivation. To fulfil this function, identity covers interpretations and understanding of the self which in turn apply more or less to one's own behaviour or the behaviour of respective others. Accordingly, the behaviour and characteristics of out-groups should be as distinct as possible from the in-group behaviour and characteristics and herewith from identity. Thus, stereotype characteristics of the out-group "athletes, who are doping" should be different from self-characteristics. The present study examines this assumption.

A sample of 88 women and 76 men (age $M = 24.5$; $SD = 4.6$) from team sport activities were divided randomly into two groups (each $n = 82$). Both groups were asked to fill out a questionnaire covering 38 items (bipolar adjectives) representing characteristics of performance behaviour and risk orientation. The group "self" was asked to assess one's own person, whereas the group "stereotype" assessed "a typical athlete who is doping". By this procedure we prevented explicit contrast and thus social desirability.

In each subscale an EFA revealed three subcomponents: Goal-orientation, ambitiousness, and self confidence for the performance subscale, tranquillity, deliberateness, and courage for the risk-orientation subscale. A MANOVA with these components as dependent variables and the factors self/stereotype, sex, and age (older/younger) as group factors was computed. We found group differences self/stereotype for deliberateness ($F = .61$), tranquillity ($F = .44$), self confidence ($F = .40$), and ambitiousness ($F = .05$). Self and stereotype did not differ from goal-orientation and courage.

Situated and dynamical analysis of doping.

Denis Hauw (University of Montpellier, France)

Jean Bilard (University of Montpellier, France)

The aim of this presentation is to provide some theoretical and methodological basis for the analysis of doping in elite sports as a situated and dynamical activity. Three principal assumptions that framed this research program are proposed and illustrated (Mc Gee, 2005a & b, Hauw & Bilard, 2010, Robbins & Ayedede, 2009). The first assumption suggested that the use of prohibited substances is an emergence in a context. The analysis of the organizations of athletes' activity when they used prohibited performance-enhancing substances



should provide relevant information to understand doping. For example, the relation between the diverse specificities of athletes' activities such as their competitive performances, the intensity of training programs, the concerns of everyday life may be considered as the origin that provoke the emergence of this behaviour. The second assumption suggested that this emergence should be considered as the results of the drifts of the individual life courses (Maturana & Varela, 1994). Several possible trajectories of the sporting life course with their characteristics that may lead to doping activity should thus be considered. Doping behaviour may also be the outcomes of a story of an athlete's career that could be described, analyzed and modelled. The third assumption considered that human activities generated individual experiences that progressively transformed the meaningful relations to events. Substance use should thus be considered as an activity whereas the social, cognitive and body relations to the substances evolved. These relations are not only a cognitive process but a linkage between experience and situations during activity that transform the athletes' world of acting and the world of meaning (Bruner, 1990).

Ethical decision-making: Evaluation of an online prevention tool against doping.

Ralf Brand (University of Potsdam, Germany)
Marius Schlegel (University of Potsdam, Germany)
Marcus Melzer (University of Potsdam, Germany)
Anne-Marie Elbe (University of Copenhagen, Denmark)

Doping is becoming an increasing problem in elite sports, leading to more interest in anti-doping and prevention programs. However, current doping prevention programs that primarily involve pedagogical education in youth have not shown to be very effective. This presentation therefore focuses on a new sport psychological approach to doping prevention by targeting the individual decision-making process. The project aims to analyze if ethical training programs adapted to the field of sports and aimed at teaching ethical competencies can prevent doping and avoid deviant behavior in sports. The effectiveness of an online doping prevention and ethical training program will be evaluated in comparison to an "ordinary" psychological education program in doping prevention. In order to test this, ethical dilemmas based on different ethical climates of sport contexts will be presented. The athletes are confronted with dilemma situations in which they need to evaluate and rank arguments for and against the decision to dope. Through this reflective process the athletes are supposed to learn how to cognitively resolve the doping situation, enabling them to make reflected decisions in the future. The experimental groups will be compared with a waiting-control group in regard to the program's effectiveness and the athletes' ability to solve ethical dilemmas as they occur in sport contexts. The first results of this project, which is supported by the World Anti-Doping Agency, Anti Doping Danmark and the German Federal Institute of Sport Science will be presented at the conference.

Finding your way up: studying mental processes and performance in sport climbing.

Organizer: Xavier Sanchez (University of Groningen, Netherlands)
Discussant: Miquel Torregrosa (Autonomous University of Barcelona, Spain)

The visual examination of a climbing route is known as route finding. The route finding that takes place before actually undertaking the ascent is known as route previewing. The lack of climbing route knowledge in general has been reported by elite competitors as a handicap prior to performing in competition (Ferrand et al., 2006) and route previewing errors in particular have been suggested as "a major reason for falling during climbing" (Boschker et al., 2002, p. 25). The purpose of the present symposium is threefold. Firstly, to provide an opportunity to delegates to gain knowledge and understanding of most recent research investigating the role and influence of route previewing/finding upon performance, whether perceived, cognitive-perceptual, or actual. Secondly, to offer those interested in this area an ideal working environment to debate future collaborative research work. Thirdly, to bridge the gap between research and practice discussing practical implications so practitioners can apply recent up-to-date research findings in the arena.



Route previewing in sport climbing: thoughts and facts.

Xavier Sanchez (University of Groningen, Netherlands)
Miquel Torregrosa (Autonomous University of Barcelona, Spain)
David J. Llewellyn (University of Exeter, UK)
Gareth Jones (Leeds Metropolitan University, UK)
Philippe Lambert (University of Liege, Belgium)

In the present communication we (1) describe the role and functions of route previewing in sport climbing to gain understanding of its role in actual performance and (2) examine the efficacy of route previewing upon indoor climbing performance. Findings from a qualitative-in-nature study show that expert climbers deem route finding as a key climbing cognitive-perceptual skill. Route previewing was perceived as playing a crucial role in the optimal planning of the ascent, both psychologically (decision making of climbing progression) and physically (strategic management of physical effort). Findings from an experimental-in-nature study show that climbers allowed to route previewing are no more likely to finish the ascent than those who are not given that option. However, route preview did influence form performance: climbers made fewer, and shorter stops during their ascent following preview of the route. Findings from the two studies taken together would seem to indicate that the ability to visually inspect a climb prior to its ascent represent an essential component of performance optimisation as success and failure at routes of a higher performance standard become increasingly marginal. Research into the underlying mechanisms that mediate route previewing processes, such as memorisation strategies and imagery ability, is warranted to understand the capturing and the processing of information involved within route previewing, and its impact upon actual climbing performance.

Categorisation of climbing holds by experts and novices.

Bettina Bläsing (Bielefeld University, Germany)
Marco Schweizer (Bielefeld University, Germany)
Thomas Schack (Bielefeld University, Germany)

Twenty participants, 10 with climbing experience (age 27.2 ± 3.5 years, 5.3 ± 2.2 years of training, two women) and 10 novices (age 24.0 ± 0.7 years, two women) were presented 16 photographs of climbing holds of different shape and size. An experimental paradigm (Structure Dimensional Analysis, SDA) was applied to investigate the categorization of climbing holds on the basis of mental representations of specialist grasp types in the long term memory of experts and novices. Previous studies using this method have revealed functionally structured representations of complex movements in the long term memory of expert athletes, in contrast to novices. The subjects were instructed to sort the holds according to their functionality. Results of the cluster analysis revealed four clusters corresponding to four grasp types for the group of experts, and three smaller clusters for the novices. The four clusters of the expert group included all 16 holds into clusters, no picture was singled out, and the Euclidean distances between cluster were all below 1.5 (critical value: 3.4, alpha value: 5%), which reflected a high consistency of the experts' decisions. In the novices cluster solution, Euclidean distances were much larger, and seven out of 16 holds were singled out. Decisions were made by the novices according to superficial shape criteria rather than to functional grasp types. The results give evidence that the categorization of visually perceived objects is fundamentally influenced by the potential for interaction (i.e., their affordances), which depends on the observer's experience and expertise.

Chunking and categorization in motor memory -experimental studies in free climbing.

Thomas Schack (Bielefeld University, Germany)
Iris Gülденpenning (Bielefeld University, Germany)

The paper deals with the question how far the representation of functional movement phases in long term memory (LTM) affects the speed of information processing in short term memory (STM) and the failure in recognizing the stimuli. The experimental test-paradigm presents a binary reaction time - memory task (Cognition Movement Chronometry). Coloured pictures with movement-elements of different climbing techniques are shown as stimulus material in several test-series. The testees of the first experimental series were classed into 3 groups of non-athletes (15), beginners (17) and experts (17). We observed not only significant differences in the medium reaction time between the expertise-dependend groups ($t=2.91; t=4.29; p<.01$). Also the slopes of the functions differ between experts and novices. The data of visual



stimuli sets with experts seem to be adapted in a logarithmic function, while the reaction time in other groups ascend in a linear line according to the quantity of pictures given. This seems to point to an expertise-dependent storage for movement-specific information. In a further experimental series the testees were also classed into non-athletes (16), beginners (15) and experts (18). In this experimental series only specific configurations of climbing walls were shown. The question was whether experts are in a better position to remember climbing holds than novices. The tests showed that experts are only able to take advantage of recognizing the stimuli, if movement (technique) related climbing holds are presented.

Inter-limb coordination variability in ice climbers of different skill level.

Léo Wattebled (University of Rouen, France)
Romain Herault (University of Rouen, France)
Maxime Lhermette (University of Rouen, France)
Ludovic Seifert (University of Rouen, France)

Studies of inter-limb coordination often showed that beginners freeze the degrees of freedom (df) while expert release the df not useful to the task. Freezing df is mostly related to a basic coordination mode like in-phase, while releasing df corresponds to out-of-phase coordination mode. Ice climbers determine their own ascent paths by creating holes with their crampons and ice tools. The coupling of upper and lower limbs thus emerges from the icefall environment without prescriptions for in- or out-of-phase. The aim of this study was to analyse the upper/lower limb coordination of ice climbers. Six expert ice climbers and six beginners were videotaped during an ascent of 15m. A calibration frame delimited the recorded space of climbing and was composed of one vertical rope with marks every 2m and two horizontal ropes with marks every 1m. Four key points (the head of left and right ice tools and the extremity of left and right crampons) were digitalised. Medio-lateral coupling was assessed by the angle between the horizontal line and the left and right anchorage. The phase angles of the upper and lower limbs were obtained by Hilbert transform. The results indicated that beginners spent long time with upper/lower limb coordination in in-phase mode, while the expert ice climbers explore larger mode of upper/lower limb coordination.

Cross-cultural studies on self-concept and motivation.

Organizer: Dorothee Alfermann (University of Leipzig, Germany)
Discussant: F. Hülya Asçi (Baskent University, Turkey)

Psychological theories and empirical results were predominantly developed by researchers from the European and North American continents, living in the so-called Western hemisphere with an emphasis on individualistic values. The question is raised if the theories would also sell in other parts of the world, particularly in Asia. The symposium is uniting contributions testing measures and theories of self-concept and motivation. Data were collected in various countries of origin and analyzed with regard to their cross-cultural invariance/similarity versus difference. Thus, the main aims of the symposium are (1) gain more knowledge on culture as a possible influential factor in the development of self-concept and motivation in sport, and (2) to discuss the implications of cultural differences with regard to theory and practice in sport psychology. In the first contribution (Alfermann, Geisler, & Okade), the focus is directed toward differences in motivation and motivational climate between German and Japanese Swimmers. The second contribution (Tietjens, Freund, Alfermann, Asçi, Khvatskaya, & Gerstner) is concerned with the factorial invariance of Herb Marsh's Physical Self-Description Questionnaire, a widely used measure in the literature, in different countries. In a longitudinal study on physical self-concept in Turkey, Asçi Çağlar, Altintas, Güven, & Uygurtas are looking for developmental changes and compare their results to those found in the Western literature. And in the fourth contribution, Jowett and Yang compare the data on motivational measures, derived from Self-Determination Theory, between European countries and China. In a summarizing discussion, Hülya Asçi will evaluate the contributions in light of the aims of the symposium.



A comparative study with Japanese and German adolescent swimmers.

Dorothee Alfermann (University of Leipzig, Germany)

Guido Geisler (Tsukuba University, Japan)

Yoshinori Okade (Tsukuba University, Japan)

Career development in sport depends on several sources of influence: The athlete; the social micro-environment - parents, coaches, peers, psychologists; the macro-environment, like culture and its traditions, the sport system, climate etc. In the study to be reported we compared Japanese and German swimmers in motivation (individual variable) and perceived motivational climate (an aspect of the social environment). Objectives: (1) To find out differences/similarities between Japanese and German Swimmers in motivation and perceived motivational climate (i.e. important determinants of athletic careers); (2) Can we explain the results with cultural traditions; 3) Is the dimension of individualism/collectivism an explanatory variable?

Measures:

Goal orientation (TEOSQ); Fear of negative evaluation (FNE); Perceived Motivational Climate in Sport Questionnaire (PMCSQ). Hypotheses: (1) German athletes are more task than ego oriented; (2) Japanese athletes are less task oriented than German Athletes; (3) Japanese athletes have more fear of negative evaluation and perceive (4) a higher competitive climate than Germans.

Male and female German and Japanese adolescent swimmers (12-18 yrs, M = 14 yrs) who belong to junior elite swimming groups were compared on the respective variables. All hypotheses were supported.

Results are discussed with regard to cultural traditions on the one hand and demands of the competitive sport system on the other. The question is raised if competitive motivation should be deemphasized in Japanese athletes and more emphasized in German athletes. In addition, the recommendations for task and ego orientation and motivational climate, found in the literature, are discussed in light of the results of our study.

An examination of longitudinal changes in physical self-perception: a case of Turkey.

F. Hülya Asçı (Baskent University, Turkey)

Emine Çađlar (Kýrýkkale University, School of Physical Education and Sport)

Atahan Altintas (Baskent University, Turkey)

Bengü Güven (Baskent University, Turkey)

Murat Uygurtas (Kýrýkkale University, Turkey)

The purpose of this study was to examine longitudinal changes in physical self-perception in adolescent boys and girls over a two year period. One hundred and seven girls (Mage= 12.71 ± 0.50) and 73 boys (Mage= 12.63 ± 0.57) voluntarily participated in this study. Physical self-perceptions were assessed with the Children and Youth Physical Self-Perception Profile. Participants completed CY-PSPP on four occasions with 6 months intervals. The changes in physical self-perception over two years in both genders were analyzed with a 2 (Gender) x 4 (Time) Repeated Measures Analysis of Variance. Analysis indicated no significant changes in any subdomains of physical self-perceptions over two years ($p > 0.05$). In addition, there were no significant differences in subdomains of physical self-perception between girls and boys except perceived strength ($p < 0.05$). Besides, the Time x Gender interaction effect was not significant for subdomains of physical self-perception except perceived strength ($p < 0.05$). The results are discussed in light of developmental changes and cross-cultural research.

Evaluation of the cultural invariance of the Physical Self Description Questionnaire.

Maike Tietjens (University of Münster, Germany)

Alexander Freund (University of Lüneburg, Germany)

Dorothee Alfermann (University of Leipzig)

F. H. Asçı (Baskent University, Turkey)

Elena Khvatskaya (P. F. Lesgaft National State University of Physical Education, Sports and Health, Russia)

Jan Gerstner (University of Münster, Germany)

The Physical Self Description Questionnaire (PSDQ) is a 70-item instrument designed for the measurement of



11 components of the (physical) self concept. Numerous studies have investigated the construct validity and generalizability to other cultural contexts, though mainly at the component level. Recently, Item Response Theory (IRT) methods have been applied as well, extending the analyses to the item level. Differential Item Functioning (DIF) describes the situation where, after controlling for the level of the latent propensity, the probability to respond in a certain category of the self-report rating scale is influenced also by group membership, so that the item "functions" differently for members of distinct groups. By analyzing DIF in a Generalized Linear Mixed Model framework, we identify items which exhibit cultural DIF in each of the 11 PSDQ scales. Furthermore, taking into consideration data from different cultural groups (German, Russian, and Turkish adolescents) allows us to make meaningful interpretations for the nature of DIF with respect to the cultural factors involved. The 11 PSDQ scales show good reliabilities. The IRT analyses showed that 56 % of the items are problematic and had to be eliminated in the male as well as in the female sample. This study comes to the conclusion that at least some of the PSDQ scales are problematic and cannot be used without further ado for diagnostic purposes in cross-cultural contexts using data from female and male participants. There appear to be different response-styles between the cultural groups. This should be investigated in more detail in future research.

Coach-athlete interactions need satisfaction, motivation and psychological well-being in sports: A cross-cultural perspective.

Sophia, Jowett (School of Sport, Exercise & Health Sciences, Loughborough University, UK)

X. Yang Sophie (School of Sport, Exercise & Health Sciences, Loughborough University, UK)

Grounded in self-determination theory's conceptualisation of basic psychological needs (SDT; Deci & Ryan, 2000), a number of previous research studies (e.g., Reinboth, Duda & Ntoumanis, 2004; Reinboth & Duda, 2006) have supported the theoretical associations between the psychosocial environment, need satisfaction, and psychological well-being within the context of sport. Nonetheless, within sport there is no research that examines these associations cross-culturally. SDT postulates that the three needs of autonomy, competence and relatedness are essential for psychological growth and well-being regardless of cultural backdrops and values. Thus, in line with the conceptualization of basic psychological needs (Deci & Ryan, 2000), we hypothesized that the motivational sequence: social environment (coach-athlete interactions) ' basic needs ' motivation ' psychological well-being would be applicable cross-culturally. Data collection is via a multi-section questionnaire which is administered to athletes and is currently on-going in a number of countries including Spain, Sweden, Britain, Belgium, China and Greece. Invariance analysis will be conducted to assess the fit of the hypothesised models to the data and their cross-cultural equivalence. This study attempts to extend the literature by examining the manner to which perceptions of coach-athlete interactions are associated with needs satisfaction and motivation, as well as psychological well-being across a number of countries. The expectation is that this study will make unique contributions to theory and practice.

Performance-related experiences, interpersonal emotions and coping in elite sports.

Organizer: Paul A. Davis (Northumbria University, UK) & Arne Nieuwenhuys (VU University Amsterdam, Netherlands)

Discussant: Paul A. Davis (Northumbria University, UK)

Emotions are generally known to play an important role in sports performance. Emotional experiences may range from the anxiety that one feels before entering an important competition, to anger and frustration in relation to failure, or joy and happiness in relation to successful performance. In addition, emotions may seriously affect sport performance (e.g., Hanin, 2000). In order to deal with the demands of competition and maintain optimal performance, athletes often make use of coping strategies. On top of this, athletes often try to manipulate the emotions of others (e.g., teammates, opponents, referees) to get an advantage.

In this symposium we aim to present an overview of four studies concerning the role of emotions in elite sports, thereby strongly emphasizing the interpersonal effects of emotions upon performance and the origins and consequences of effective and ineffective coping. The first presentation will cover acts of intimidation and the implementation of coping strategies between elite cricket batsmen and bowlers. Next, the second presentation will show how celebratory responses after successful soccer penalty kicks may affect the outcome of a penalty shootout. Subsequently, the third presentation will explain how meta-experiences (i.e., knowledge and beliefs about the impact of experiences and strategies upon performance) may offer a



framework that helps to understand coping and coping effectiveness in elite athletes. Finally, the fourth presentation will deal with the situation in which athletes can no longer cope with the demands of competition, and explores the role of hope in preventing burnout in competitive athletes.

Howzat?! interpersonal emotions between elite cricket batsmen and bowlers.

Paul A. Davis (Northumbria University, UK)
Russell Warren (Northumbria University, UK)
Samuel Wills (Northumbria University, UK)

Objective:

To examine the relationship between elite cricketers' interpersonal emotions and implementation of coping strategies during competition. Furthermore, cricketers' perspectives on the performance implications of acts of aggression and attempts at intimidation were explored.

Methods:

Five elite level cricketers from the United Kingdom were interviewed about their experiences (i.e., emotions, cognitions, behaviours) in relation to specific incidents during competition, where an opponent attempted to evoke a particular emotional reaction in them (e.g., anxiety, anger). Linguistic analyses were conducted on the interview transcripts to investigate participants' emotional reactions, indicators of cognitive processes (e.g., insight, causation), and coping responses.

Results:

In reaction to their opponents' attempts, cricketers (i.e., batter and bowlers) reported experiencing a range of emotions (e.g., joy, anger) and implemented a variety of subsequent coping strategies. Batters in particular perceived that bowlers attempted to evoke feelings of anxiety and anger through a number of tactics, including verbal exchanges and strategic bowling. Linguistic analyses revealed that cricketers in general felt that they largely understood the aims of their opponents' attempts to influence their emotions and, consequently, implemented coping strategies in order to maintain performance.

Conclusion:

Interpersonal emotions occur between opponents and influence cricketers' implementation of coping strategies. The performance implications of interpersonal emotions between opponents have received limited research attention and offer a potentially fruitful avenue for future research

Emotional contagion in soccer penalty shootouts.

Gert-Jan Pepping (University of Groningen, Netherlands)
Tjerk Moll (University of Exeter, UK)
Geir Jordet (Norwegian School of Sport Sciences, Norway)

Objective:

To examine the association between celebratory responses after successful soccer penalty kicks and the outcome of a penalty shootout.

Method:

Individually displayed post-shot behaviours in penalty shootouts held in World Cup and the European Championships (N = 151) were rated on the presence of universally distinct and recognizable behaviours associated with positive emotions. Using Chi-Square analyses we investigated which behaviours were associated with winning the shootout, with measurements conducted when the relative standing between the teams was equal.

Results:

Players who engaged in certain celebratory post-shot behaviours were more likely to be in the team that ultimately won the penalty shootout. In particular, celebrations including both arms were associated with winning the shootout. It was more likely that the next kick taken by an opponent was missed after a player displayed these behaviours after a goal than when he did not.



Discussion:

The findings are interpreted in terms of emotional contagion, that is, the transference of emotions from individuals onto teammates and opponents. It is suggested that the individual expression of post-performance emotions serves a direct purpose in enhancing future team performance and that emotional contagion is an important process to consider in the context of elite sport performance.

Meta experiences and coping effectiveness in elite sports.

Arne Nieuwenhuys (VU University Amsterdam, Netherlands)

Lisa Vos (VU University Amsterdam, Netherlands)

Sandra Pijpstra (VU University Amsterdam, Netherlands)

Frank Bakker (VU University Amsterdam, Netherlands)

Objective:

To examine the relationship between athletes' performance-related experiences and implementation of coping strategies during competition and to explore the role of meta-experiences (i.e., knowledge or beliefs about the impact of experiences and strategies upon performance) in determining the effectiveness of coping strategies.

Methods:

Ten elite level athletes from different individual sports were interviewed about their experiences (thoughts, emotions, actions) in relation to specific performance situations during both a very good and a very bad competition they had recently performed in.

Results:

Regardless of competition (good or bad) and sport (long duration / short duration) athletes reported an equal number of experiences and implemented coping strategies. In the good competitions the success ratio of implemented coping strategies appeared significantly higher than in bad competitions. In addition to this finding, coping strategies implemented in good competitions were based more often on meta experiences than coping strategies implemented in bad competitions.

Conclusion:

Meta experiences are instrumental in explaining the impact of experiences upon performance and have an important role in determining the selection, implementation and effectiveness of coping strategies.

Does hope predict burnout in competitive athletes? A prospective analysis.

Henrik Gustafsson (Karlstad University, Sweden)

Leslie Podlog (Texas Tech University, USA)

Magnus Lindwall (Gothenburg University, Sweden)

Peter Hassmen (Umea University, Sweden)

Objective:

Preliminary research indicates that hope is associated with enhanced performance and may prevent negative states such as burnout (Gustafsson, Hassmén, & Podlog, 2010). The relationship between hope and burnout has only been investigated cross-sectionally. Therefore, the purpose of this study was to prospectively investigate the relationship between trait hope and burnout perceptions in high-level junior athletes during the course of a competitive season.

Methods:

Participants were 115 Swedish athletes (n = 67 males, n = 48 females) aged 16-20 years, who completed the trait hope scale (Snyder et al., 1991) prior to the start of the competitive season followed by the burnout questionnaire (ABQ: Raedeke & Smith, 2001) six months later.

Results:

Bivariate correlations were consistent with hope theory contentions, indicating significant negative relationships ($p < .01$) between hope and all the three burnout dimensions (physical/emotional exhaustion, $r = -.23$; reduced sense of accomplishment, $r = -.32$, and sport devaluation, $r = -.32$). Three separate multiple



regression analyses using trait hope as the independent variable and each burnout dimension as the dependent variable were conducted. Regression analysis revealed that trait hope was a significant predictor of all burnout dimensions - physical/emotional exhaustion, $r^2 = .05$ ($\beta = -.23$, $p < .05$), reduced sense of accomplishment, $r^2 = .10$ ($\beta = -.32$, $p < .001$), and sport devaluation, $r^2 = .10$ ($\beta = -.32$, $p < .001$).

Conclusion:

The results support earlier cross-sectional findings that hope is negatively related to athlete burnout. Promoting hope in athletes may help prevent this detrimental syndrome.

The cultural turn in sport psychology: insights into trans-national athlete subjectivity.

Organizer: Tatiana V. Ryba (Aarhus University, Denmark)

Discussant: Natalia Stambulova (Halmstad University, Sweden)

In the context of increased global mobility, issues of cultural diversity become integral in athletes' experiences in and of the 'liquid' globalised world. The cultural turn as an epistemological shift in sport psychology offers a set of analytical strategies for advancing our understanding of how cultural processes deeply influence, if not constitute, cognition, affect and behavior of athletes. The recently edited volumes *Cultural Sport Psychology* (Schinke & Hanrahan, 2009) and *The Cultural Turn in Sport Psychology* (Ryba et al., 2010) reflect a growing interest in this burgeoning area. Equipped with cultural psychological theories and associated research methodologies, highlighting individual experiences as simultaneously cultural and social, this symposium explores the construction of athlete's subjectivity through the interplay of identity and experience at various sporting milieus. The specific interest is in showing how psychological constructs acquire meaning and manifest themselves in various sociocultural contexts, in the process of "subjectification of space and time" (Benson, 2001). The symposium concludes with future directions for cultural research in sport psychology.

Understanding transition through r(a)upture.

Author: Tatiana V. Ryba (Aarhus University, Denmark)

In a society increasingly marked by migration, cultural and economic globalization, diaspora, and interconnectivity, athlete's subjectivity is not bound to traditional categories of nation, race, ethnicity, and culture, but being constantly redefined through the liquidity of transnationalism. In this study of transnational athletes, I invoke a phenomenological concept of noema-noesis to make sense of how experience becomes meaningful as a site of articulation in and through which identity is constructed. Relatively recent studies in cultural psychology point to the dialogical nature of the self as the main mechanism for human adaptation (e.g., Valsiner, 2004). Since it is not the mere physical act of geographical re-location that is critical to understanding transitions brought about by the migrations within and between the nation states, I analyze the dynamic interplay of experience and making sense of experience to locate the contradictions and gaps of meaning between the 'new' and 'old' psychological worlds. The points of rupture I believe are the moments when subjectivity emerges to consciousness, opening a conceptual window for understanding fluidity of the self as an adaptive mechanism. I will use examples from my ongoing study to illustrate the conceptual arguments.

Negotiating a female judoka identity in Greece.

Anna Kavoura (University of Jyväskylä, Finland)

Tatiana V. Ryba (University of Aarhus, Denmark)

Stiliani Chroni (University of Thessaly, Greece)

Despite the changing dynamics around women in sport, female martial artists remain constrained by stereotypes and dominant ideologies (Hargreaves, 1997; Noad & James, 2003). The majority of psychological studies conducted in women's martial arts have seemed to assist in reinforcing gender stereotypes, leading to misconceptions regarding how the female fighter is constituted. Feminist scholars remind us that this is very problematic, since such dominant ideologies influence the construction of female subjectivity and sporting identity. To gain a better understanding of the psychological processes of the female athlete's subjectivity, as well as how these processes are enacted by the cultural context, we drew on a "cultural praxis" (Ryba &



Wright, 2005) framework to situate our research in the glocal matrix of judo's sporting culture. In this presentation, we discuss empirical data from an ongoing ethnographic study. Data were collected during a 4-month ethnographic phase in Greece from participant observations and interviews. The analysis of the data was informed by Foucauldian discourse theory and was guided by the following questions: In what ways the identity construction of the female athlete is influenced by culturally induced discourses of gender? What strategies do female athletes use to succeed in the male-centered world of judo? What are the inner workings of power that underlie the described strategies? The answers to these questions will be portrayed in this presentation.

Brazilian women olympic trajectory: from exclusion to veiled prejudice

Katia Rubio (University of São Paulo, Brazil)

The first participation of Brazilian women in Olympic Games was in Los Angeles, 1932. Nevertheless Brazilian female athletes would come to conquer their first medals in the Olympics of Atlanta in 1996. The history of female sport in Brazil is marked by demonstrations of chauvinistic hallmark, noticed in daily life, in institutions and in the Brazilian legislation, however, little confronted by women in general and by women athletes in particular. The objective of this study is to put in doubt the feminine sportive practice in the Brazilian society. In this study, 78 Brazilian female athletes who participated in the Olympic Games from the year of 1948 up to 2008 were interviewed. The methodology used was the life histories, from where we try to rescue them subjective contents as well as the social ones comprehended in the life of women athlete. What is observed out of the collected histories is that few athletes, only 6 of all the interviewed ones, can discern a prejudice related to gender and all of them competed in Olympic Games from 1992 to 2000. All the other athletes do not refer to prejudice or exclusion in their speeches, pointing in some cases to racial or regional matters to justify some type of discrimination. These reports reinforce the established power of the discrimination that naturalizes some forms of social relations.

Athletes' careers across cultures: new directions in career research and praxis.

Natalia Stambulova (Halmstad University, Sweden)

Tatiana V. Ryba (Aarhus University, Denmark)

One of the major recent shifts in the topic of athletes' career development and transition is the one from perceiving a body of knowledge as universal and applicable to any culture to a culturally informed career research and interventions (Stambulova, in press). This shift has been stimulated by a new discourse in sport psychology termed the "cultural turn" (Ryba & Wright, 2005; Ryba, 2009; Ryba, Schinke, & Tenenbaum, 2010). The scientific context outlined by the cultural turn accounts for cultural diversity of athletes and, therefore, seems to be particularly relevant in the area of career development and transition. Indeed, the main tenets of the cultural discourse have been quickly picked up by career researchers and practitioners alike (e.g., Stambulova, 2000; Stambulova & Alfermann, 2009; Stambulova, Alfermann, Statler, & Côté, 2009). In this symposium, a new International Society of Sport Psychology project will be presented. The ISSP project, intended to be compiled and published as an edited volume, reflects the tremendous growth of career development and transition research in Europe and is expected to stimulate a culturally informed discourse of career research and assistance.



Self-regulation and football performance.

Organizer: Tynke Toering (University of Groningen, Netherlands / Norwegian School of Sport Sciences, Norway)

Discussant: Gert-Jan Pepping (University of Groningen, Netherlands)

Self-regulation refers to processes by which people change themselves and exert control over their thoughts, feelings, and actions (Baumeister & Vohs, 2004). As it helps individuals adapt to their environment, self-regulation is an important aspect to consider in sport. This symposium provides an impression of self-regulation from several angles applied to football, the most popular sport in the world. Self-regulation will be discussed in light of different paradigms, such as learning, expertise development, ecological psychology, and choking. The symposium will particularly focus on the interplay between the individual and its environment. First, self-regulation of learning will be discussed, which has been found to be related to the performance level of youth football players and to be reflected in behaviors referring to taking responsibility for learning. Second, a literature review will be presented suggesting that the use of self-regulation strategies is related to the quality of practice among youth football players. The first two presentations will show that self-regulation processes highly depend on the environment in which they take place. One way in which the environment can influence self-regulation processes of football players is by eliciting feelings of pressure and at the same time by providing support. The third presentation will discuss self-regulatory breakdowns of penalty takers and other types of self-regulatory breakdowns with particular emphasis on implications for psychological performance support in football. The presentations will be followed by a discussion about future research and intervention possibilities concerning self-regulation, emphasizing the interplay between individual and environment.

Self-regulation of learning of elite youth football players.

Tynke Toering (University of Groningen, Netherlands / Norwegian School of Sport Sciences, Norway)

Self-regulation of learning is thought to help individuals learn more effectively (Zimmerman, 2006). As time to reach the top in football is relatively short, self-regulated learning may be important in the development of high-level youth football players. A self-report study comparing international and national level players (all elites; 11-17 yrs) focused on the self-regulated learning aspects of planning, self-monitoring, evaluation, reflection, effort, and self-efficacy. Results indicated that international level players had higher reflection scores, while the amount of practice was equal in both groups (Toering et al., in revision). Given findings that players born early in a selection year are by far overrepresented in youth selection teams (e.g., Helsen et al., 1998), relative age was controlled for. Results showed that relative age did not affect the relationship between reflection scores and performance level. To find out how self-regulation questionnaire scores were reflected in practice behaviors of elite youth football players (U17), another study aimed to identify behavioral correlates of self-regulated learning. Results of this observation study showed that self-regulated learning is reflected in taking responsibility for learning (Toering et al., in press). The importance of measuring the practice environment and overt behavior to gain a complete impression of players' self-regulated learning skills was highlighted. It is concluded that the self-regulation aspect of reflection seems to make a difference in elite youth football and can be linked with particular practice behaviors. Elite youth football players may benefit more from practice through reflective thinking, which can facilitate development towards their full potential.

The quality of practice and self-regulation in football expertise development: a systematic review.

Mathias Haugaasen (Norwegian School of Sport Sciences, Norway)

Within the Developmental Model of Sport Participation (DMSP- Côté, 1999; Côté et al., 2007), one of the key elements in developing sport expertise is quality of practice. The main aim of this review was to identify key areas in the development of football expertise within the DMSP, and subsequently identify the role of self-regulation with respect to quality football practice. The review was limited to academic journal articles found in the SportDiscus database. The keyword search consisted of sub-categories within the DMSP, and only



those specific for football (n = 38 articles) were selected for systematic analysis. The results suggest that self-regulation strategies positively affect the quality of both non-specific and football-specific practice. The quality of football-specific practice is also closely related to the players' motivation, dedication and effort, the extent to which practice exercises reflect game situations and coach competence and feedback. The results support the two different pathways to football expertise described in the DMSP; i) early sampling and later specialization and ii) early specialization, although one does not seem superior over the other. Deliberate practice seems to be central to the effect of both non-specific and football-specific practice as opposed to merely playing experience. In conclusion, the use of self-regulation strategies appears to be an important factor to consider in both the pathways to the development of football expertise.

Self-regulatory breakdowns in football.

Geir Jordet (Norwegian School of Sport Sciences, Norway)

Self-regulation refers to the ability to change oneself and exert control over inner processes (Baumeister & Vohs, 2004). According to Baumeister (1997), self-regulation failures can be manifested as both tradeoffs and counterproductive strategies. The former is when people engage in a self-regulation strategy that produces short term gains, but with delayed costs that ultimately far outweigh the initial short term gains; the latter happens when people pursue a positive performance end, but the means that are chosen are not properly suited to bring about the desired outcome. Following Baumeister's (1997) model, we conducted a series of studies to examine self-regulatory failure in elite footballers performing under severe performance pressure. Specifically, video analyses of penalty shooters consistently show that players under particularly high ego threat, such as a) players who perform under negative valence conditions (Jordet & Hartman, 2008); b) players who have particularly high individual status (Jordet, 2009a); or c) players who represent countries with high team status (Jordet, 2009b) exhibit more avoidance looking (a and c) and much faster preparation times than the players who perform under less threat. These and other types of self-regulatory breakdowns are discussed with particular emphasis on implications for psychological performance support in football.

Understanding positive youth development through sport: international perspectives.

Organizer: Daniel Gould (Michigan State University, USA)

Discussant: Daniel Gould (Michigan State University, USA)

As the focus in youth development has shifted from the prevention of undesirable actions to the acquisition and development of desired outcomes (Larson, 2000; Pittman, 1991), researchers have recognized the potential for sport to serve as a vehicle for positive youth development (Damon, 2004; Lerner, Almerigi, Theokas, & Lerner, 2005). Over the past two decades, sport programs have emerged with a focus on positive youth development through sport (e.g., The First Tee), with the majority of literature on these programs located primarily in the United States, Australia, and the United Kingdom. However, other programs are emerging around the non-English speaking world, but much less is written about them. In addition, current international programs are often missing scientific research that could measure their overall impact on youth and the communities they serve. The present symposium will address these gaps in the research and application of sport-based positive youth development programming around the world. Researchers with experience in four different countries will present their findings on sport programs, highlighting the impact on the participants, coaches, and surrounding communities. There will be a particular focus on the link between research and practice, with each presentation highlighting specific research findings and examining how these findings can be used in practice. Overall, this is a step towards the globalization of sport-based positive youth development that is grounded in research.

Sport-based positive youth development: a study in the Kayamandi Township.

Meredith A. Whitley (Michigan State University, USA)

Laura A. Hayden (University of Massachusetts Boston, USA)

Daniel Gould (Michigan State University, USA)

Participation in sport can contribute significantly to positive youth development, teaching critical life skills that are thought to be transferable to the non-sport context (Danish, Forneris, Hodge, & Heke, 2004; Larson, 2004).



Although there have been increasing numbers of organizations that are running international sport programs with a focus on positive youth development (i.e., Right to Play and Grassroots Soccer), many townships, villages, and communities in non-Western cultures do not have access to these organized programs. With this need in mind, the present study was designed to take an in-depth look at one township within South Africa (Kayamandi), with the hopes of adding to our understanding of how positive youth development may fit into this context. Forty-three interviews were conducted with community members, coaches, and young athletes, all of whom were from the Kayamandi Township. Questions focused on the role of sport in Kayamandi, including youth sport participation, familial and community support, and life skills development through sport. Hierarchical content analysis was employed. We examined how sport was conducted, perceived, and supported in these communities, with participants identifying a number of barriers to sport participation. Additionally, participants discussed the life skills learned from the coaches, such as self-regulation, social responsibility, and work ethic, along with the strategies coaches used to teach life skills. These findings have significant implications for sport within the Kayamandi Township as well as for designing sport-based positive youth development programs throughout Africa.

An ethnographic study of life skills development in Malaysian youth.

Laura A. Hayden (University of Massachusetts Boston, USA)

Meredith A. Whitley (Michigan State University, USA)

Participation in sport can contribute significantly to positive youth development, teaching critical life skills that are thought to be transferable to the non-sport context (Danish, Forneris, Hodge, & Heke, 2004; Larson, 2004). Although there have been increasing numbers of organizations that are running international sport programs with a focus on positive youth development (i.e., Right to Play and Grassroots Soccer), many townships, villages, and communities in non-Western cultures do not have access to these organized programs. With this need in mind, the present study was designed to take an in-depth look at one township within South Africa (Kayamandi), with the hopes of adding to our understanding of how positive youth development may fit into this context. Forty-three interviews were conducted with community members, coaches, and young athletes, all of whom were from the Kayamandi Township. Questions focused on the role of sport in Kayamandi, including youth sport participation, familial and community support, and life skills development through sport. Hierarchical content analysis was employed. We examined how sport was conducted, perceived, and supported in these communities, with participants identifying a number of barriers to sport participation. Additionally, participants discussed the life skills learned from the coaches, such as self-regulation, social responsibility, and work ethic, along with the strategies coaches used to teach life skills. These findings have significant implications for sport within the Kayamandi Township as well as for designing sport-based positive youth development programs throughout Africa.

Understanding sport-based practices for socially vulnerable youth: a Flemish case study.

Rein Haudenhuyse (Vrije Universiteit Brussel, Belgium)

Marc Theeboom (Vrije Universiteit Brussel, Belgium)

As we adopt a global view of development, we are beginning to understand that athletic involvement transcends cultures to provide environments in which youth can develop holistically. International research that looks at life skill development through sport can contribute to the growing body of literature assessing how life skills taught through sport can be transferable to other environments. While this research has been ongoing in more developed countries, it is mostly lacking in developing countries. To address this need, this research identified life skills learned through sport at one specific high school in Malaysia. This ethnographic investigation employed an emergent design that included semi-structured interviews with 5 coaches, 10 student-athletes, and 10 community members. Hierarchical content analysis was conducted to identify themes concerning participants' perceived life skills and development of those life skills. Initial findings suggest that the life skills learned through sport in this culture, such as self-regulation, discipline, and effort, are similar to those learned in first world cultures and, therefore, suggest the universality of life skill development through sport. The project contributed to our understanding of using sport as a vehicle for positive youth development by identifying athletes, coaches, and community members' perceptions of behavioral indicators of life skill competencies in high school student-athletes developed through sport participation. This research helps us continue to acquire an understanding of life skill development through sport participation while learning about specific cultures to help youth acquire



transferrable life skills to face culturally specific barriers to life satisfaction.

The implementation and sustainability of life skills programming in Nepal.

Tanya Forneris (University of Ottawa, Canada)

There is a long history of viewing sports to achieve a variety of outcomes related to the individual and the wider community. In this perspective, sports are recognized as an opportunity to engage young people in a positive alternative, not just in terms of participation in sports, but across a range of broader societal issues. More recently, this approach became known as 'sport plus,' because of the proclaimed added value beyond 'mere' participation (Coalter, 2010). Purposeful sampling was used by which a Flemish (Belgium, northern region) initiative was selected that could be viewed as 'sport plus' in relation to working with inner-city socially vulnerable youth. Extensive field visits were conducted during a period of 12 months, in which data was gathered using multiple qualitative methods. In this paper, we will focus on data generated from the interviews with vulnerable youth (15), coaches (13), youth workers (3), group worker (1), and project workers (3). To analyze the interviews, we used an interpretative phenomenological approach, which allowed us to understand the data from the perspectives and the experiences of the interviewees (Smith, 2008), and subsequently how these can be linked to the theory of social vulnerability. Initial findings suggested that there is a perceived and experienced difference in the coaching and the organization of sport programs targeted for socially vulnerable youth. Further analysis will provide us more insights in these experienced differences on the level of coaching and organizing sport programs, specifically in relation to influencing processes of social vulnerability.

International perspectives on understanding positive youth development through sport.

Tanya Forneris (University of Ottawa, Canada)

According to the World Health Organization (2010), Nepal is one of the least developed countries in the world and on the human development index Nepal ranks 136 out of 177. In 2003, the United Nations (UN) accepted resolution 58/3 "Sport as a means to promote Education, Health, Development and Peace." This resolution recognized the ability of sport and physical education to enhance the well-being of youth around the world. Research has shown that life skills programs that use sport and physical activity as a vehicle to teach life skills can be effective in enhancing youth development (Theokas et al., 2008). To date, these programs have been predominantly implemented in the western world. However, in recent years, there has been an increase in the implementation of such programs in the developing world. This presentation will provide an overview of two studies that have examined the impact of school-based life skills programming in Nepal. The first study examined how the school principal and program leaders perceived the life skills programming in Nepal. Three major themes arose from the data which were program importance, program impact, and lessons learned. The second study examined the impact of life skill club participation. Results indicated that the youth learned various life skills such as goal setting, communication, and self-confidence. In addition to the results this presentation will provide an overview of lessons learned and program sustainability.

Exercise and cognitive function.

Organizer: Terry McMorris (University of Chichester, UK)

Discussant: Gershon Tenenbaum (Florida State University, USA)

Until recently, research examining the effect of exercise on cognitive function has tended to be somewhat repetitive with limited input from theory (Tomprowski, P. D, 2009, Methodological issues: Research approaches, research design and task selection. In McMorris, T., Tomporowski, P. D. & Audiffren, M., Eds. Exercise and Cognitive Function, Chichester, Wiley-Blackwell. pp. 139-177) and few studies examining such factors as the effect on different types of cognitive task, individual differences or the interaction with other lifestyle issues (McMorris, T., Tomporowski, P. D., Audiffren M., 2009, Summary and direction for future research. In McMorris, T., Tomporowski, P. D. & Audiffren, M., Eds. Exercise and Cognitive Function, Chichester, Wiley-Blackwell. pp. 443-457). The purpose of this symposium is to examine some of these issues and present possibilities for future research. The first presenter will outline the development of endocrinological theories for an exercise-cognition interaction and examine the empirical evidence for such an interaction. The second



presentation focuses on individual differences, namely fitness level and cognitive expertise; the nature of the physical activity; and social interaction demands in the young and the elderly. The third speaker reports the findings of a study examining the effect of chronic exercise on the cognitive performance, on a working memory task, of young adults, and sedentary and physically active older adults. The final speaker reports the findings of several studies that used a variety of measurement techniques, examining the effect of exercise on the cognitive functioning of individuals with addictive behavioural problems.

Development and evaluation of endocrinological theories for an exercise-cognition interaction.

Terry McMorris (University of Chichester, UK)

Until recently, research examining the effect of exercise on cognitive function has tended to be somewhat repetitive with limited input from theory (Tomprowski, P. D, 2009, Methodological issues: Research approaches, research design and task selection. In McMorris, T., Tomporowski, P. D. & Audiffren, M., Eds. *Exercise and Cognitive Function*, Chichester, Wiley-Blackwell. pp. 139-177) and few studies examining such factors as the effect on different types of cognitive task, individual differences or the interaction with other lifestyle issues (McMorris, T., Tomporowski, P. D., Audiffren M., 2009, Summary and direction for future research. In McMorris, T., Tomporowski, P. D. & Audiffren, M., Eds. *Exercise and Cognitive Function*, Chichester, Wiley-Blackwell. pp. 443-457). The purpose of this symposium is to examine some of these issues and present possibilities for future research. The first presenter will outline the development of endocrinological theories for an exercise-cognition interaction and examine the empirical evidence for such an interaction. The second presentation focuses on individual differences, namely fitness level and cognitive expertise; the nature of the physical activity; and social interaction demands in the young and the elderly. The third speaker reports the findings of a study examining the effect of chronic exercise on the cognitive performance, on a working memory task, of young adults, and sedentary and physically active older adults. The final speaker reports the findings of several studies that used a variety of measurement techniques, examining the effect of exercise on the cognitive functioning of individuals with addictive behavioural problems.

Moving from a 'dose-response' to a 'quality-response' relationship in exercise and cognition research.

Caterina Pesce (Italian University of Sport and Movement, Italy)

This presentation focuses on the need, in both acute and chronic exercise and cognition research, to think beyond the framework of intensity, duration and frequency of physical activity. There still is a paucity of research investigating whether and how the qualitative aspects of physical exercise such as cognitive, coordinative or social interaction demands involved in movement and sport tasks may impact cognitive performance in the short or long term.

As concerns chronic exercise effects on cognitive function, it seems that cross-sectional chronic exercise research and sport expertise research are coming closer to another. Their intersection point is represented by the study of individual differences in cognitive efficiency deriving from chronic sport participation. On the one hand, further research is necessary to understand the interplay between physical fitness and cognitive expertise in determining cognitive benefits. On the other hand, it remains to be tested whether the engagement of cognitive and particularly executive functions during physical activity is an important factor for obtaining chronic exercise benefits. Interventions centred on gross-motor cognitive training might shed some light into this issue.

As regards acute exercise and cognition research, few studies have investigated what are the effects of single bouts of exercise whose complex movement task requirements challenge executive functions or have compared the effects of acute exercise bouts of similar intensity and duration, but differing in cognitive and social interaction demands. Thus, the 'quality-response' relationship still remains a relationship in need for further research with important practical implications particularly during development and older adulthood.



Swimming as a positive moderator of cognitive aging: a cross-sectional study.

Michel Audiffren (University of Poitiers, France)

The meta-analysis of Colcombe and Kramer (2003) showed that the positive effect of physical activity on cognitive aging is larger for executive functions than for other functions such as information processing speed. The purpose of this study is to determine if the regular practice of swimming reduces the deleterious effect of aging on both information processing (IP) speed and updating of working memory (WM), two basic mechanisms accounting for age-related decline in cognitive function. Three groups of sixteen volunteer participants (young adults, sedentary older adults, and older adults regularly practicing swimming) performed a battery of five cognitive tasks. Speed of IP was assessed with simple reaction time, two-choice reaction time and number of correct responses in the digit symbol test of the Wechsler Adult Intelligence Scale. Letter and spatial running span tasks were used to tap updating of WM. A first MANOVA on the three dependent variables reflecting IP speed showed that younger adults performed faster than older adults whatever their level of physical activity. A second MANOVA showed that older swimmers updated their WM better than sedentary older adults but as well as young adults. Results suggest that the regular practice of swimming counteracts the deleterious effect of aging on updating of WM, one of the most important executive functions, but not on IP speed. Because of the cross-sectional design, we cannot reject another explanation: older swimmers would regularly practice physical activity because their executive functions perform well whereas sedentary older adults wouldn't because of failure in executive functions.

Changing cue salience and informational processing (bias) in addictive behaviours: The acute effects of exercise.

Adrian Taylor (University of Exeter, UK)

Models of addiction (eg, Volkow ND, Fowler JS, Wang G-J. 2003. The addicted human brain: insights from imaging studies. *Journal of Clinical Investigation*, 111, 1444-1451) suggest that behaviour may be driven by the urge or desire for pleasure or anticipation of reward, and the need to reduce negative withdrawal symptoms such as deactivation and low mood. Studies show increased urges to engage in a range of appetitive behaviours (eg, smoking, snacking) during abstinence, low mood and stress, and in the presence of environmental triggers. Failure to suppress thoughts (urges) about smoking and snack food consumption leads to poor self-regulation, lapses and relapse during abstinence. Over 20 studies have consistently shown that a single bout of exercise (5-30 mins) reduces urge to smoke and fewer have shown similar effects on urge to eat chocolate among regular eaters, and drink alcohol among abstainers. This presentation will briefly review this evidence, but focus on recent studies that have shown that exercise also reduces salience of cues (ie, cognitive processes), measured by eye tracking technology (attentional bias), and functional Magnetic Resonance Imagery (fMRI). Findings from two attentional bias studies involving smoking and two involving snacking, and two fMRI studies with smokers will be reviewed and discussed within the context of models of addiction, inhibition and impulsivity.

Sport and exercise psychology for individuals with a disability.

Organizer: Marit Sørensen (The Norwegian School of Sport Sciences, Norway)

Discussant: Marit Sørensen (The Norwegian School of sport sciences, Norway)

The purpose of this symposium is to demonstrate some of the variety within the field of sport and exercise psychology in relation to adapted physical activity. Sport psychology has a lot to offer for these populations, ranging from generating knowledge about elite paralympic sport, promoting physical activity among people with mental health problems, extending the knowledge about rehabilitation and exercise after spinal cord injury, and helping young adults with a physical disability becoming more physically active.



Winter paralympians coping with the 2010 Vancouver Paralympics.

Elsa Kristiansen (The Norwegian School of Sport Sciences, Sunnaas Rehabilitation hospital, The Norwegian Olympic Sport Centre, Norway)

Anne Lannem (The Norwegian School of Sport Sciences, Sunnaas Rehabilitation hospital, The Norwegian Olympic Sport Centre, Norway)

Frank Abrahamsen (The Norwegian School of Sport Sciences, Sunnaas Rehabilitation hospital, The Norwegian Olympic Sport Centre, Norway)

Marit Sørensen (The Norwegian School of Sport Sciences, Sunnaas Rehabilitation hospital, The Norwegian Olympic Sport Centre)

By interviewing 4 Norwegian Paralympians shortly after the 2010 Vancouver Paralympics, we were able to identify some of the additional categories of stressors athletes with different types of physical ability face when participating at the highest level. Significantly, the sport classification system is unique stressors for this group of athletes. In addition, type of disability also has importance when it comes to opportunities given for camps, training and obstacles of doing sport at elite level. Hopefully, these narratives may shed some light on the experience of being a Paralympians in addition to be useful for sport psychologists working with them.

Exercise mastery and burnout in persons with incomplete spinal cord injury (SCI).

Anne Lannem, Marit Sørensen (The Norwegian School of Sport Sciences, Sunnaas Rehabilitation hospital)

In a population of persons with incomplete SCI, exercise mastery was experienced when exercise was perceived as building or maintaining physical resources. Reduced exercise mastery was experienced when physical progression stagnated or when overload occurred, and fatigue developed. There were individual differences in what contributed to the overload. Persons with incomplete lesion may be particularly vulnerable for physical overload because of their possibilities to move with less technical aids. In order to maintain function and build resources to cope with daily stressors, it seems necessary to make sure there are sufficient resources available to exercise systematically.

Sport psychology services for Olympic and Paralympic athletes.

Frank Abrahamsen, (The Norwegian School of Sport Sciences, The Norwegian Olympic Sport Centre, Norway)

Sport Psychology (SP) service delivery to elite sport athletes with a disability has received growing attention in recent years, although the literature might be considered sparse compared to elite athletes participating in the Olympic Games. The Olympic Sports Centre in Norway has fully integrated Olympic and Paralympic sports, underlining the importance thereof, alluding to the fact that the Paralympic athletes receive the same services and attendance possibilities as Olympic athletes do. The following presentation will draw on previous examples from the literature on SP work with disabled athletes (e.g. Hanrahan, 2005; Tomick, Clement & Etzel, 2009) and also make comparisons between Olympic Games and Paralympic Games work. As the consultant for the Norwegian teams before, during and after the Olympic games (2008, 2010, 2012) and the Paralympic games (2006, 2008, 2010, 2012) the presenter will draw on the experiences from this work, sharing some ideas to consider. Two main points will be made: first that athletes going to Olympic games and Paralympic games are more similar than dissimilar, and second; that some of the support staff for the Paralympic games are mainly volunteers, which may introduce more challenges to performance than the athletes do themselves.

Psychological factors of importance for participation in physical activity for people with mental illness.

Jeanette Kristiansen (The Norwegian School of Sport Sciences, Innlandet hospital, Reinsvoll, Norway)

Marit Sørensen (The Norwegian School of Sport Sciences, Innlandet hospital, Reinsvoll, Norway)

The purpose of the study was to examine motivational aspects among participants in a community activity program for individuals with mental health problems (n=62). Data were collected by a survey. Need satisfaction, self - schema for physical activity and relative autonomy index were positively and significantly correlated with physical activity level, as suggested by self determination theory and self-schema theory. In particular, the need for competence seemed important because satisfaction of this need was what this



population scored the lowest. Further results and implications for practice will be discussed.

Perceived physical and mental health after in-patient physical activity rehabilitation in young adults with a disability.

Among physically disabled young adults ($N = 44$, M age = 24.7, $SD = 5.1$), we tested the hypotheses that an autonomy supportive adapted physical activity intervention would: (1) increase the participants' mental and physical health as measured by SF-12 over three weeks compared to a waiting list control group; and (2) longitudinally lead to three and twelve months changes in mental and physical health for the whole sample. Results supported hypothesis one for the vitality and role physical outcomes, and hypothesis two for change in vitality over three months and role physical over twelve months.

Exploring the experience of relatedness in para- equestrian sport.

In para-equestrian sport the relationship between the horse and rider is particularly challenging because of the need to use unconventional means of communication. The purpose of this study was to explore to what extent, and in what ways the need for relatedness, as described in SDT theory, was satisfied through the horse and rider relationship. Method: Qualitative interviews with 5 participants in the Para Equestrian European Championship, 2009. Results: The need for relatedness was satisfied in many ways. The horse was perceived as a sensitive partner that can learn and understand the needs of the rider, as well as function as a compensation for the disability.

Supervision and professional development.

Organizer: David Tod (Aberystwyth University, UK)

Discussant: Martin Eubank (Liverpool John Moores University, UK)

The purpose of the symposium is to (a) present current research regarding professional development, reflective practice, and supervision in applied sport psychology practitioners, and (b) build on the research to present ways that educators and supervisors might assist trainees' professional development. In the first presentation the authors review research (primarily longitudinal work) focused on the ways that practitioners' beliefs and practices change with client experience. In the second presentation the authors report the findings from a study examining the effectiveness of a self-reflection intervention with applied sport psychology service providers. In the third presentation, the author reflects on a supervision model she developed with special attention given to the selection and training of applied sport psychologists to become skilful supervisors. In the final presentation, the authors reflect on their experiences in occupying the dual roles of teacher and supervisor overseeing the professional development of students enrolled in their university, with attention also given to the role that theory plays in developing a training programme. Together the four presentations illustrate how professional development structures may be grounded in research and theory, and also highlight some of the ethical and logistical considerations warranting attention when developing training programmes.

Professional development in applied sport psychologists.

David Tod (Aberystwyth University, UK)

Mark Andersen (Victoria University, Australia)

Daryl Marchant (Victoria University, Australia)

In recent years researchers have focused on effective sport psychologist characteristics, ways practitioners change as consultants with service-delivery experience, and information sources that influence professional development, generally in student-practitioners and those individuals in the early years of their applied careers. In this presentation we review research focused on professional development in applied sport psychologists. Results from these studies indicate that when first interacting with clients, trainees often adopt rigid "expert" problem-solving approaches to service delivery. With time and more experience, some individuals begin to focus on developing relationships with clients and adapting wider and more flexible interventions to suit athletes' needs. In addition, with experience practitioners adopt practices that are coherent with their beliefs and values. The basis for professional decision making shifts over time from rigid adherence to external



expertise sources to internal principles developed from client experience. Participants report that self-reflection, experimentation, and negotiating service-delivery challenges underpins their professional development. Influential sources of information include interactions with clients, supervisors, and colleagues, undertaking personal therapy, being a supervisor for others, experiences not specific to professional activities, and professional literature. During initial client interactions practitioners often experience anxiety and self-doubt. With experience their anxieties and self-doubts reduce and their confidence increases. These themes are congruent with counselor development theory. Knowledge about professional development across the career lifespan may assist educators and supervisors prepare future practitioners for their careers.

Developing the effectiveness of applied sport psychology service delivery: a reflective practice intervention.

Brendan Cropley (University of Wales Institute, UK)

Sheldon Hanton (University of Wales institute UK)

Andy Miles (University of Wales Institute, UK)

Ailsa Niven (Heriot-Watt University, UK)

As a result of the professionalization of applied sport psychology (ASP) a number of professional ASP bodies (e.g., British Association of Sport & Exercise Science, BASES) have assimilated reflective practice into their training programs under the premise that it offers a legitimate method for practitioners to question their personal effectiveness and responsibilities in the delivery of ASP services. However, several issues regarding the systematic integration of reflective practice into frameworks of ASP service delivery are apparent. Consequently, this study attempted to examine the effect of developing skills in reflective practice on the effectiveness of ASP service delivery. Three BASES practitioners were selected to participate in a staggered single-subject multiple-baseline intervention aimed at: (a) examining the effectiveness of a context-specific training program in developing reflective skills; (b) revealing whether a development in reflective skills directly influenced the effectiveness of practice; and (c) exploring how the content and potency of learning altered as practitioners developed their reflective skills. All participants reported improvements in the level they were able to reflect at post-intervention, as well as the value of the intervention in augmenting reflective learning. Social validation interviews substantiated links between participants developing reflective skills and increases in the effectiveness of their practice. The findings demonstrate the value of reflective practice training activities on the development of reflective skills as well as supporting the concept of reflective practice as a mechanism for the enhancement of effective ASP practice. The findings have implications for the way in which ASP training programs could be developed.

Supervision for trainee applied sport psychologists.

R.I. (Vana) Hutter (VU University, Netherlands)

Supervision is invaluable in the professional practice of sport psychology, especially when starting in the field. Nevertheless, organising and staffing supervised practice for students is one of the main challenges for institutes offering training in applied sport psychology. Since 2007 the VU university in Amsterdam offers a post-master program in applied sport psychology. An important part of the program is supervised casework, in which the students work with athletes, coaches and teams under supervision of different experienced sport psychologists. The aim of this supervision is threefold: Supervisors enhance the professional development of the students, they warrant a certain quality of service delivery to the clients of the students and look after the well-being of both students and their clients. Before the start of the program there was no tradition of formal supervision in the Netherlands. Therefore, while starting the program, supervision had to be set-up from scratch. Currently 18 supervisors are affiliated with the program and every year different training workshops are offered. In this presentation the experiences with, and lay-out of, supervision in the Amsterdam program is shared with delegates. Special attention will be given to the selection and training of applied sport psychologists to become skillfull supervisors, using a competencies-profile for supervisors.



How to manage the dual roles of teacher and supervisor: Halmstad supervision model.

Natalia Stambulova (Halmstad University, Sweden)

Urban Johnson (Halmstad University, Sweden)

The authors share nine years experience of leading an applied sport psychology course in dual roles with students as teachers and supervisors. They have taken on dual roles because of limited resources available for supervision at their University. Therefore, precautions have been taken based upon the literature (e.g., Andersen, Van Raalte & Brewer, 2000; Andersen & Williams-Rice, 1996) and cultural context that have led to a unique supervision model. This model is grounded in Vygotsky's socio-cultural theory with its emphasis on a socio-cultural context and transporting competencies from zone of proximal development to zone of actual development using scaffolding. It consists of goals (e.g., introducing professional culture, providing feedback, stimulating reflexivity), philosophy (e.g., ethical work, theory driven practice, holistic perspective), process (e.g., individual/group supervision, role play, filming a real session with the client followed by analysis with a supervisor), and students' feedback. As teachers, the authors address performance enhancement, career development and transitions, lifestyle management, social network/relationships, injury prevention and rehabilitation issues. As supervisors, the authors advise the supervisees on how to collect information about the client, formulate working issues, find relevant theoretical framework(s), develop an individualized intervention program and assess its effectiveness. Within this model, the supervisors also provide step-by-step scaffolding (a sequence of tips) helping students to transfer professional competences from the zone of proximal to the zone of actual development. Special attention is paid to communicating role expectations clearly to the course participants as students and as supervisees, and ethical conduct for the group and teachers/supervisors.

Cheating in sports and beyond.

Organizer: Nico W. Van Yperen (University of Groningen, Netherlands)

Discussant: Nico W. Van Yperen (University of Groningen, Netherlands)

"Hoping for a drug-free Olympic Games is naïve; cheating is embedded in human nature", according to Olympic chief Jacques Rogge (2008) on BBC's Inside Sport program. Indeed, despite the Olympic oath in which respect for the rules, sportsmanship, and refraining from doping and drug use are emphasized, dishonesty and rule-breaking behaviors seem to be quite common in elite sports, as indicated by the great number of doping scandals in sports each year. Similarly, each year, ethical scandals concerning high-profile firms and business executives are breaking news, and academic cheating in general has been, and continues to be, a serious problem.

Because of the high and stable prevalence across achievement settings (sports, work, education) and the serious consequences of cheating, it is important to understand why people engage in cheating and other antisocial behaviors which may, ultimately, help to reduce the occurrence of these behaviors.

The purpose of this symposium is to discuss theory-based research on the antecedents of antisocial behaviors in sports, but also in other achievement settings (e.g., work and education). Specifically, we argue and demonstrate that antisocial behaviors can be theoretically explained and predicted by considering the achievement goal framework, which includes the mastery-performance (or task-ego) distinction. One conclusion is that, although Olympic chief Jacques Rogge may have been wrong when he stated that cheating is embedded in human nature, hoping for drug-free Olympic Games might be naïve indeed.

The goal to win, or not to lose, at any cost: the impact of achievement goals on cheating.

Nico W. Van Yperen (University of Groningen, Netherlands)

We examined the relations between achievement goals and cheating in two studies. The findings from Study 1 show that the extent to which people intend to behave unethically in the areas of work, sport, and education is a function of their dominant achievement goals in these particular settings. An even more important addition to the extant literature may be the finding from Study 2 that imposing achievement goals on individuals affects actual cheating behavior during task performance. Consistent across both studies, performance-based goals (i.e., goals grounded in an interpersonal standard) were more strongly associated with cheating than mastery-based goals (i.e., goals grounded in an intrapersonal standard). We conclude that



recognizing and understanding the effects of achievement goals on cheating behavior may enable coaches, managers, and teachers to create environments that may reduce the occurrence of cheating.

Implicit theories of ability, achievement goals, and cheating.

Karine Corrion (University of Nice Sophia-Antipolis, France)

This research program is based on the social-cognitive model of achievement motivation by Dweck and Leggett (1988) revisited by Cury et al. (2006). In a first study (Corrion et al., 2010), the Cury et al. model was applied to the judgment of cheating acceptability in a physical education context, using a correlational design. The results indicated that performance-approach and performance-avoidance goals mediated the relationships between entity theory and the judgment of cheating acceptability, whereas mastery-approach and mastery-avoidance goals mediated the relationships between incremental theory and the judgment of cheating acceptability. Moreover, entity theory directly influenced judgment of cheating acceptability, which suggests that adolescents with a fixed conception of ability accept cheating more easily. Two complementary experimental studies examined the influence of implicit theories and achievement goals on cheating behavior. The participants placed in conditions of the entity theory and the performance goals (i.e., performance-approach and performance-avoidance) displayed more cheating behaviors than those placed in the incremental and in the mastery goals conditions (mastery-approach and mastery-avoidance). In conclusion, our results clearly document the utility of applying the social-cognitive model to moral variables such as the judgment of cheating acceptability and transgressive behavior in sport contexts. However, they suggest that it might not be necessary to take into account the valence of goals (approach/avoidance) defined in the 2 X 2 achievement goal framework when examining the effect of achievement goals on cheating variables.

Achievement goals in team sports: Exploring competition between team-mates.

Ian D. Boardley (University of Birmingham, UK)

Numerous studies have associated increased ego involvement with lower levels of morality in sport (see Kavussanu, 2008). To date though, researchers have predominantly investigated ego involvement in terms of competence judgments made with reference to opponents. Further, when assessing immoral behaviours in sport researchers have also tended to focus on behaviours towards opponents. However, it is possible that athletes may also strive for ego-involved goals based on outperforming their team-mates. Such intrateam ego involvement may have important implications for antisocial behaviours toward team-mates that are known to exist in sport (see Kavussanu & Boardley, 2009). The primary purpose of the current study is to determine whether intrateam ego involvement is positively associated with antisocial behaviour towards team-mates in sport. A secondary purpose of this study is to investigate potential mediators and moderators of the hypothesised relationship between intrateam ego involvement and antisocial behaviour towards team-mates. Specifically, it is hypothesised that cohesion will moderate this relationship, in as much as the relationship will be stronger for athletes who perceive low levels of cohesion. Further, it is proposed that moral disengagement will mediate the anticipated positive relationship between intrateam ego involvement and antisocial behaviour towards team-mates. The target sample for the study is 250-350 male and female team-sport athletes from a variety of competitive levels. The relationships being investigated in this study will be tested using structural equation modelling. In sum, this study aims to extend achievement goal theory-based morality research by investigating intrateam ego-involved goals.

Prosocial and antisocial behaviour in sport versus education.

Maria Kavussanu (University of Birmingham, UK)

In their seminal research, Bredemeier and Shields (1986) found divergence in moral reasoning between sport and daily life with a greater percentage of sport versus life reasoning classified as assimilative (i.e., the least mature level of moral reasoning). We extended this work to behaviour and had two purposes. The first purpose was to examine whether differences in prosocial and antisocial behaviour exist between sport and education. The second purpose was to determine whether moral disengagement and ego orientation mediate potential differences in behaviour between these two contexts. University team-sport athletes (N = 372) completed questionnaires assessing prosocial and antisocial behaviour, moral disengagement, and goal



orientation in sport and university. Analyses of variance indicated that student-athletes reported: more antisocial and less prosocial behaviour toward their opponents while playing sport than toward their fellow students; more prosocial behaviour toward their teammates in sport than toward other students in university; and higher moral disengagement and ego orientation in sport than university. Within-subject regression analyses revealed moral disengagement and ego orientation as partial mediators: Higher moral disengagement and ego orientation in sport partially explained the higher frequency of antisocial behaviour in sport compared to the university context. No mediators were identified for prosocial behaviour. Our findings extend the work of Bredemeier and Shields (1986) and highlight the importance of distinguishing between teammates and opponents when contrasting morality in sport with that in other contexts.

Delivering sport psychology services to talented young athletes: theoretical and applied aspects.

Organizer: Ceciç Erpič Erpi (University of Ljubljana, Faculty of Sport, Slovenia)

Discussant: Miquel Torregrosa (Autonomous University of Barcelona, Spain)

The symposium brings together five presentations that illustrate sport psychology services for young perspective athletes. Two presentations are theoretical in nature, while three derive from applied work with young athletes. Altogether symposium accentuates young athletes' need for sport psychology services that holistically take sport and non-sport aspects into perspective. Barič and colleagues describe young athletes' perception of children's rights in sport and show that it is closely related to motivational climate. Ceciç Erpič presents the characteristics of career planning among young football players that are playing at the verge of the professional level. Career planning and holistic perspective of athlete's development is illustrated in the third presentation. Using qualitative methodology Ceciç Erpič describes career development of a young athlete through cognitive-behavioral perspective, while the results of a follow-up study offer different viewpoints and therefore enable holistic comprehension of career development. The fourth presentation concentrates on the relationship between coach and young volleyball players. Zuskova emphasizes cooperation and effective communication between coach and his adolescent players while presenting several aspects of applied work with all counterparts. Finally, the fifth presentation by Barič illustrates how philosophy from a cartoon can be employed for diminishing competitive pressure of children.

Young athletes' perception of children's rights and motivational climate in sport.

Barič Renata (University of Zagreb, Faculty of Kinesiology, Croatia)

According to UN convention, all children have rights to develop in all aspects of life: physical, emotional, psychosocial, cognitive and cultural. Sport offers a child an opportunity for a complete development and also has a nurturing effect. Sport psychology accentuates that children are not small adults and the sport environment has to be adjusted to their specific needs and capacities. A coach who understands children needs and cares for their rights provides positive conditions in which a child can give maximum. Motivational climate defined as an achievement environment which is a function of the goals that are to be achieved, of the evaluation and reward process, and of requested relationship of the participants (Seifriz et al., 1995), can influence children perception of their rights fulfilment. Our aim was to investigate how 69 young Croatian athletes (M=12.86 yrs.) perceive their rights' satisfaction and motivational climate in their clubs, and are there any differences between perceived motivational climate in children whose basic rights in sport environment are satisfied differently. The results showed that children perceive their rights are more satisfied in family (M=4.63) and training (M=4.44), than in school environment (M=3.90). Young athletes whose rights were more satisfied perceive their sport environment as more oriented towards learning, cooperation and skill development ($t=5.21$; $df=66$; $p<.000$). No difference was obtained for performance motivational climate; these perceptions were not related to children's perception of their rights. These results indirectly indicate the importance of coach's role in global positive experience of sport environment in young athletes.

Career planning of young perspective athletes: a preliminary study.

Ceciç Erpič Saša (University of Ljubljana, Faculty of Sport, Slovenia)

Career planning broadly influences the quality of adaptation to transitions between different sports career



stages (e.g., Cecić Erpič et al., 2004, Stambulova, 1994). In the field of sports career transitions studies, majority of them are focused on career termination of elite athletes while about career transitions of young perspective athletes much less is known. Theoretically study derives from Developmental model of transitions in sport (Wylleman & Lavallee, 2004), which provides a holistic perspective on young athletes' development. The aim of the research was therefore to study career planning of young perspective athletes. Sample consisted of 37 young football players (mean age 17.5 years; all boys), pupils of sport high-school. They were playing football in different clubs on a sub-professional and professional level. Athletes' Retirement Decision Inventory (ARDI; Fernandez, Stephan, & Fouquereau, 2006) was used to assess their career planning process, while athletic identity and socio-emotional support were assessed with subscales of Sports Career Termination Questionnaire (SCTQ, Cecić Erpič, 2002). Several questions regarding demographics, educational achievements and competitive characteristics were added to assess holistic perspective on athlete's career. Results of the study showed characteristics of career transition process of young perspective athletes. Results of ANOVA showed several differences in career planning characteristics between athletes who already play at the professional level and those who at the same age are not professionally obliged.

Sport career counseling for young basketball player: case study and its follow-up.

Cecić Erpič Saša (University of Ljubljana, Faculty of Sport, Slovenia)

The career assistance and counseling related to career decisions is becoming an important segment of psychologist's applied work with young perspective athletes. Taking all aspects of development (e.g., education, sport...) into the account, use of career planning along with other sport psychology techniques is a beneficial for athlete's well-being and progress, both in sport and in non-sport activities. The aim of the paper is to present a case study of young perspective basketball player (male, high-school student aged 16 at the time of counseling) and the process of his career related decisions. Athlete initially came to improve his sporting performance, ignoring his deficiencies related to school work. During the work on those two fields, career related issues arose. Career related issues were discussed during several individual sessions with sport psychologist. Using the qualitative research methodology various cognitive, behavioral and emotional aspects of the decision process were found. Athletic- and non-athletic spheres of life were discussed. Identification of the stressors related to the decision and his basic beliefs about himself were discussed from the cognitive-behavioral perspective. Some characteristics of the career planning process and problem solving strategies will be presented. After 7 years objective and subjective aspects of his development were analyzed in a follow-up study. Taking holistic approach into the account, career related issues are discussed.

Kung-Fu Panda Philosophy - The Solution For Diminishing Competitive Pressure in Children.

Baric Renata (University of Zagreb, Faculty of Kinesiology, Croatia)

Most of internal motives for sport participation are endangered when child athlete starts to compete. Different factors increase competitive pressure in children causing discrepancy between competitive and training performance. One is inability to remain composed, i.e. troubles of coping with mistakes during training or competition. Cognitive behavioral approach shows relationships between thoughts, feelings and behavior promoting that each dysfunctional behavior, thoughts and ancillary emotional states can be unlearned. Many young athletes become frustrated, lose confidence or get angry after mistakes. They think about consequences of their mistakes, analyzing past mistakes or failure, missing the present moment, focusing on the outcome instead of process, letting emotions to take control over their performance. Psychological preparation with young athletes is sensitive and complex process. The sport psychologist's task is to build a trustful rapport with a child and to present its problem in a way a child can understand and accept it, motivating and convincing her/him to change and experiment with different approaches even changes are not immediately visible. Behavioral experiments and homework adjusted to children's interests are useful tools. Kung-fu-panda cartoon was used as a framework for explaining mindfulness and process orientation during training and competition with three 10-13 yrs. old athletes (tennis player, diver, skater). Some citations from the film were utilized for establishing competitive goals. Emotions children felt when writing and talking about their 'kung-fu-panda experience' were used for anchoring desired competitive emotional state. Such approach seem to be appropriate for explaining the background of composure problems and lack of emotional control, also motivating and fun, produced effective change in young athletes' competitive experience.



Sport Psychological Preparation of Young Male Volleyballers.

Zuskova Klaudia (Pavol Jozef Safarik University in Kosice, Slovak Republic)

Our paper deals with knowledge based on the cooperation between coach and male volleyball players aged from 14 to 18 years in one Slovak extra-league club. Form of cooperation was group sessions with players in gymnasium or locker room once a week for one hour. Training was thematically oriented. It was a combination between specific physical exercise and individual consultation with the coach, based on observations of selected matches. The reasons for cooperation are presented as follows: compensation of physical load, generally unspecified problems and psychological preparation. Content of sport psychological preparation included diagnostics: reaction ability, sociometric methods, short-term and long-term objectives of players, team rules, lifestyle management, meeting with parents, acquisition of relaxation exercises, concentration and reaction oriented training (volleyball-specific exercises), video recordings of trainings and matches. Practice-based knowledge stressed the importance to teach coaches to formulate the problem, create the effective organisational structure of training units and to cooperate with parents. Communication, contact and trust with young male players are supported by male sport psychologist throughout practical activity. This period is characteristic by initiation of athlete's stereotypic lifestyle.

Coaches' evaluation of sport psychologists working with young elite athletes in Flemish topsportschool

Debbi de Caluwé (Vrije Universiteit Brussel) & Paul Wylleman (Vrije Universiteit Brussel)

Results showed that coaches were positive (4.25) about the sport psychologists and the services they provide and that they wanted to continue working with them (4.17). Coaches expected (4.43) and believed that they were involved (4.4) in the mental training of their athletes. Coaches reported that they were present (3.14) during mental sessions, that their knowledge of mental skills training has increased (4.14) and that they felt capable to teach and train mental skills to their athletes (3.86). According to the coaches, athletes used the mental skills during practice (3.64) and competition (3.19), although there is room for improvement.

We concluded that the initial phase of this project showed its additional value for coaches. This finding was confirmed in research with sport psychologists and elite-sport coordinators.

By including sport psychology in coaching educations, coaches gain knowledge and preconceptions about sport psychology can be countered. This enables them to integrate mental training in their daily training.

A need was identified with regard to the structured and detailed evaluation by athletes and parents of sport psychologists and the services they provide.

This research focused on Flemish coaches' expectations and evaluation of sport psychologists working in sportfederations and/or topsportschools within a government-funded project.

Participants included 21 coaches (4 women) in 7 different sports (i.e., basketball, cycling, gymnastics, swimming, table tennis, tennis, track and field). Data was collected using a questionnaire combining quantitative and qualitative items. The quantitative items were scored on a five-point Likert scale (1=I don't agree at all - 5=I totally agree).

Exercise motivation, quality of exercise engagement and adherence: a self-determination theory approach

Organizer: João Moutão (ESDRM-Portugal), Luís Cid (ESDRM-Portugal) & Symeon Vlachopoulos (Aristotle U.Thessaloniki-Greece)

Discussant: Symeon P.Vlachopoulos (Aristotle University of Thessaloniki, Greece)

Self-Determination Theory (SDT: Deci & Ryan, 1985) is a theory concerned with the causes and consequences of self-determined motivation and is one of the most popular socio-cognitive approaches to human motivation that has been applied to several life domains including sport, exercise, and physical education. This symposium draws together investigations using SDT concepts to explain individual differences in motivation for exercise participation, levels of exercise participation and adherence, and quality of exercise engagement. The first paper presents the results of a model testing the SDT sequence and using the construct of exercise enjoyment as a mediator in the relationship between levels of self-determined motivation and exercise behaviour. The second



paper integrates variables from achievement goal theory and self-determination theory and describes the relationships of task and ego goal orientations and the respective types of motivational climate in exercise with the SDT variables of basic psychological needs and motivational regulations to predict variation in exercise adherence. The third paper examined the interplay between levels of self-determined motivation in the contexts of health and leisure in predicting self-determined motivation for exercise and the consequences of exercise self-determination in relation to the flow experience. The fourth paper presents results of a model testing the hypothesized SDT sequence in exercise using levels of participants' subjective vitality as the outcome variable in the context of maximizing the quality of exercise engagement among exercise participants. The fifth paper presents the effects of an autonomy-supportive exercise instructing style on middle aged women's basic psychological needs, self-determined motivation, subjective vitality, in-program frequency of exercise attendance, and after-program leisure time physical activity participation.

Enjoyment as a mediator of exercise behaviour.

Juan Antonio Moreno-Murcia (Sports Research Center - University "Miguel Hernández" of Elche, Spain)

David González-Cutre Coll (Sports Research Center - University "Miguel Hernández" of Elche, Spain)

Eduardo Cervelló Gimeno (Sports Research Center - University "Miguel Hernández" of Elche, Spain)

Abstract:

Following the Hierarchical Model of Intrinsic and Extrinsic Motivation (Vallerand, 2001), the present study tested a model where an autonomy-supportive exercise instructing style predicted the need for relatedness which predicted intrinsic motivation which in turn predicted enjoyment with enjoyment predicting exercise behavior. A sample of 682 exercise participants in non-competitive physical activities with a mean age of 35.50 ± 11.70 years participated in the study. The questionnaires used were the Autonomy-Supportive Coaching Questionnaire (ASCQ), the BPNES need for relatedness subscale, the intrinsic motivation subscale of the BREQ-2 and the enjoyment and fitness/health motives of the MPAM-R. The results of structural equation modelling analyses showed a positive prediction of the need for relatedness by perceived autonomy-support of the exercise instructor, a positive prediction of intrinsic motivation by the need for relatedness; a positive prediction of enjoyment by the intrinsic motivation subscale; and prediction of 51% variance of the fitness/health motive by exercise enjoyment. These results highlight the importance of promoting exercise enjoyment by the exercise practitioners to enhance exercise behavior.

Keywords:

Intrinsic motivation, autonomy, fitness, health, fun, exercise.

Motivation and adherence to exercise: a test of hierarchical models that integrate AGT and SDT.

Luís Cid (Sport Sciences School of Rio Maior and Research Center for Sports Sciences, Health and Human Development, Portugal)

João Moutão (Sport Sciences School of Rio Maior and Research Center for Sports Sciences, Health and Human Development, Portugal)

José Leitão (University of Trás-os-Montes and Alto Douro and Research Center for Sports Sciences, Health and Human Development, Portugal)

José Alves (Sport Sciences School of Rio Maior and Research Center for Sports Sciences, Health and Human Development, Portugal)

Abstract:

The main aim of this study was to test hierarchical motivational models which integrate Achievement Goal Theory (AGT) and Self-Determination Theory (SDT) to explain variation in exercise adherence. This aim was accomplished using responses from 218 exercise participants in private fitness centers of both genders (102 female, 116 male), and aged between 15 and 60 years. The participants completed the Portuguese version of the Goal Orientation in Exercise Measure (GOEM), the Perceived Motivational Climate in Exercise Questionnaire (PMCEQ), the Basic Psychological Needs in Exercise Scale (BPNES) and the Behavioural Regulation in Exercise Questionnaire - 2 (BREQ-2) while adherence to exercise was measured by the number of their visits to the fitness center over a 6-month period before and after the data collection via the questionnaires. The structural equation modeling results showed (1) that task orientation positively predicted autonomous motivation while ego orientation positively predicted amotivation. In turn, only the positive association between self-determined motivation and adherence to exercise was significant; (2) the



mastery-involving motivational climate positively predicted satisfaction of basic psychological needs. In turn, need satisfaction predicted autonomous motivation, which in turn positively predicted adherence to exercise; (3) only a small amount of variation of adherence to exercise was explained by both motivational models. However, the predictive power of both models in relation to exercise adherence was significantly improved when past exercise behavior was taken into account.

Keywords:

Motivation, Adherence, Exercise, Achievement Goal Theory, Self-Determination Theory

The interplay of different contextual motivations and their implications for exercise motivation.

David González-Cutre Coll (Sports Research Center - University "Miguel Hernández" of Elche, Spain)

Alvaro Sicilia Camacho (University of Almería, Spain)

Cornelio Águila Soto (University of Almería, Spain)

Eduardo Cervelló Gimeno (Sports Research Center -University "Miguel Hernández" of Elche, Spain)

Juan Antonio Moreno-Murcia (Sports Research Center - University "Miguel Hernández" of Elche, Spain)

Abstract:

The aim of this study was to analyze the interaction between different contextual motivations and exercise motivation. The sample consisted of 449 exercisers aged between 16 and 53 years. Questionnaires were used to measure the satisfaction of basic psychological needs, self-determined motivation and the autotelic experience during exercise. We also measured the level of self-determined motivation regarding health, leisure and interpersonal relationships. The results of the structural equation modeling demonstrated that basic psychological needs and self-determined motivations about health and leisure positively predicted the self-determined motivation to exercise. Moreover, the self-determined motivation to exercise, positively predicted the autotelic experience. The model was invariant across age, although some gender differences were found. Specifically, the self-determined motivation towards health in men did not significantly predict the self-determined motivation to exercise. The results offer insights about the role of motivation in other contexts within the field of exercise.

Keywords:

Flow, psychological needs, self-determined motivation, health, leisure.

Testing causal relations proposed by SDT in portuguese exercisers to predict subjective vitality.

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Luís Cid (Sport Sciences School of Rio Maior and Research Center for Sports Sciences, Health and Human Development, Portugal)

José Leitão (University of Trás-os-Montes and Alto Douro and Research Center for Sports Sciences, Health and Human Development, Portugal)

José Alves (Sport Sciences School of Rio Maior and Research Center for Sports Sciences, Health and Human Development, Portugal)

Abstract:

Based on self-determination theory (Ryan & Deci, 2000), this study tested a model of the assumed sequential relationships between perceived autonomy support, psychological need satisfaction, autonomous motivation and subjective vitality. The hypothesized mediational roles of psychological need satisfaction and self-determined motivation were also studied. A sample of 522 Portuguese exercise participants, 313 females and 209 males, aged from 16 to 70 years ($M=32.82$; $SD=12.08$) completed the Portuguese version of the Perceived Autonomy Support Exercise Climate Questionnaire (PASECQ), the Basic Psychological Needs in Exercise Scale (BPNES), the Behavioural Regulation in Exercise Questionnaire -2 (BREQ-2) and the Subjective Vitality Scale (SVS). The structural equation modeling revealed that autonomy support positively predicted the satisfaction of the three basic psychological needs of which the need for competence positively predicted autonomous motivation, which in turn positively predicted subjective vitality. Implications of autonomy-supportive behaviours provided by fitness instructors are discussed in relation to the quality of exercise involvement among Portuguese exercise participants.

**Keywords:**

Autonomy support, psychological needs, self-determined motivation, vitality

The influence of an autonomy-supportive exercise instructing style on changes in exercise motivation.

Frederiki C. Moustaka (Department of Physical Education and Sport Science, Aristotle University of Thessaloniki, Greece)

Symeon P. Vlachopoulos (Department of Physical Education and Sport Science, Aristotle University of Thessaloniki, Greece)

Abstract:

The present study evaluated the effectiveness of an autonomy-supportive intervention based on self-determination theory in influencing perceptions of autonomy support, basic psychological needs, behavioural regulations, subjective vitality, and exercise behavior. Thirty-five female exercise participants aged from 30 to 58 years who enrolled to an 8-week exercise program attended 24 exercise classes that were taught using either an autonomy-supportive (n= 19) or a lack of autonomy support (n= 16) instructing style. The experimental group reported an increase in perceived autonomy support, the fulfilment of the needs for autonomy and competence, identified regulation, intrinsic motivation, and subjective vitality. They also reported higher attendance rates during the program and greater participation to moderate and/or mild non-structured exercise during five weeks after the end of the program. The control group reported a decrease in perceived autonomy support, the needs for autonomy and competence, intrinsic motivation, and subjective vitality. The results supported tenets of self-determination theory and highlighted the motivational and psychological benefits of an autonomy-supportive exercise instructing style among middle-aged women.

Keywords:

Autonomy support, experimental design, exercise instructing style manipulation

Talent development research

Organizer: Ilka Seidel (Karlsruhe Institute of Technology, Germany)

Discussant: Anne-Marie Elbe (University of Copenhagen, Denmark)

The development of athletic talents depends on an above average level of performance prerequisites and on personal moderator variables. Moreover, it is common sense that motivational and volitional factors are necessary for high or peak performance in sports. For the practical work in talent selection and talent development instruments are needed that measure the actual status of talent development and which can lead to appropriate interventions.

This symposium will discuss these different aspects of talent development from an empirical perspective. The first presentation compares two methods of talent selection to determine the most effective for predicting talent potential. The second presentation investigates volitional and motivational factors of football players of different performance levels. The third presentation investigates the development of stress resistance as one indicator of self-regulation in young elite athletes to derive information for adequate developmental support. The fourth presentation shows the effects of an intervention on the development of personal aspects of young sports talents. Last but not least, the fifth presentation proves the effects of a team building intervention on group cohesion in teams of young elite football players.

How best to predict talent? A retrospective study of handball talents selection and their correct forecast.

Jörg Schorer (Westfälische Wilhelms-University Münster, Germany)

Rebecca Rienhoff (University of Muenster, Germany)

Lennart Fischer (University of Muenster, Germany)

Joe Baker York (University Toronto, Canada)

Most talent selection systems administer a parallel strategy including national coach observations and varying physical and psychological tests when deciding who is chosen for talent development (cf. Baker, Copley, &



Schorer, 2011).

In this study, talent selection was investigated as the result of a decision making process intended to forecast future performance. Two methods were explored (coaches' choice versus physical testing) to determine which was the most effective for predicting potential. Data from a handball talent selection camp from the year 2001 were re-analyzed, including motor, technical and tactical performance of the players as well as the selection of the national and regional coaches. Additionally, naives and advanced handball players selected the most 'talented' on the basis of videos from the matches played during the talent camp (cf. Borges, Goldstein, Ortmann, & Gigerenzer, 1999).

Results revealed little difference between regional and national coaches in the prediction of future performance and little difference in group forecasting performance between naives and advanced players. Best predictions were presented by administering the motor, technical and tactical test results.

While several limitations must be discussed, this study is one of a minority investigating talent selection with their long term performance (cf. Elferink-Gemser, Visscher, Lemmink, & Mulder, 2007).

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Volition distinguishes elite football players from near elites and talented drop-outs.

Karin Moesch (University of Copenhagen, Denmark & Lund University, Sweden)

Anne-Marie Elbe (University of Copenhagen, Denmark)

Marie-Louise Trier Hauge (University of Copenhagen, Denmark)

Johan Wikman (University of Copenhagen, Denmark)

Motivational and volitional characteristics are considered important factors for athletic success but can also be connected to drop-out from elite sports (Elbe et al., 2003; Ericsson et al., 1993). This study investigates volitional and motivational factors of top-level Danish football players. Sixty five female and 42 male players (N = 107; age: M = 21.03 years, SD = 4.89) completed an online survey requesting information about sport success, career development and reasons for retirement (if applicable). In addition they filled in the short version of the Achievement Motives Scale -Sport (Elbe & Wenhold, 2005) and four scales of the Volitional Components Questionnaire-Sport (Wenhold et al., 2009). The sample was divided into elite (n = 23), near-elite (n = 65) and dropouts (n = 19) based on athletic success and reasons for retirement. A one-way between-subjects ANOVA was used to calculate differences between these three groups concerning motivational and volitional factors.

The ANOVA revealed significant differences regarding the volitional scales self-determination ($p < .05$), avoiding effort ($p < .01$) and postponing training ($p < .01$). The elite athletes showed the most beneficial values in all three scales, whereas the dropouts showed the lowest scores. No significant differences were found regarding the other variables.

The results identify volition as a crucial personality factor for elite football players, which might also be connected to dropping out of sport.

The development of stress resistance in young elite athletes.

Ilka Seidel (Karlsruhe Institute of Technology, Germany)

For the successful long-term development of talented young athletes the coping with increasing demands in different areas of career development is necessary. Therefore, the development of adequate mechanisms like self-regulation at an early stage is relevant (Elbe et al., 2003). In this study the development of stress resistance as one indicator of self-regulation in young elite athletes at Elite Sports Schools was investigated. Developmental data over a period of four years of three subscales of the modified Stress Symptoms Test (Frester, 1972) from 82 male and 64 female athletes (N = 146, M = 13.16 years, SD = 1.51 years) were analyzed.



Altogether, positive handling with interference factors is carried out in the total sample over the period of four years. Experiences with stressful situations increase over time ($p < .05$), especially in the subscale for stability after success and/or failure and in relation to vegetative conditions ($r^2 = .17$). These increasing experiences result in less activation or drive. The ANOVA revealed significant decreasing effects in coping over time in all three subscales ($p < .01$, $r^2 = .16 - .25$) and significant differences between male and female athletes ($p < .05$, $r^2 = .05 - .06$). Female young elite athletes show lower stress resistance than their male counterparts. The results indicate that the prevention of a decreasing of positive coping strategies (activation) in relation to increasing stressful experiences has to be a main part in talent development at an early stage of the athletic career.

Talent development through group coaching as a narrative-collaborative practice.

Reinhard Stelter (University of Copenhagen, Denmark)

The intervention focuses on career development, self-reflection and personal growth of young sports talents, who intend to integrate their sports career, educational demands and private life. Via stimulating co-creative reflective practice of the participants, the coach helps to create an environment where all participants can unfold their resources, develop their reflective space and share and discover new perspective to common or individual challenges.

Objective:

The intention is to show

- how the intervention has an impact on identity and self-concept of young sports talents in general and
- how it has a positive influence on their motivation, on stress coping and action control in specific

Design and methods:

The randomized control study includes: 1. group coaching (N=32) 8 x 1½ hr sessions over 12 weeks + a control group (N=45 in all three groups). Pre, intermediate and post assessment (Questionnaire measuring stress/anxiety, motivation and action control). 2. Qualitative studies based on 2 interviews/per selected coachee (N=6) (intermediate/post).

Results:

- Statistical analysis: There is a significant improvement of the coaching group compared to the control group
- On social recovery after 12 weeks ($r=0,24$; $p=0.038$)
 - On general well-being after 12 weeks compared to control group ($r=0,22$; and borderline significant $p=0.059$)
 - On failure-related action orientation (Borderline significance, $p=0.100$) (week 6 - 12)

Qualitative analysis:

- The intervention strengthens mutual understanding through group dialogues
- Participants experience an appreciative learning environment that helps them to develop identity and construct new strategies for future action.
- Coachees express increased intrinsic motivation

Conclusion:

The greatest benefit appears to lie on the mutual learning possibilities that the participants experience. In that sense narrative group coaching has the potential to empower the individual within collaborative dialogues.

The effects of a team building intervention on group integration - social in young elite football.

Johan Wikman (University of Copenhagen, Denmark), Anne-Marie Elbe (University of Copenhagen, Denmark) & Reinhard Stelter (University of Copenhagen, Denmark)

Introduction:

Group cohesion has shown to positively correlate with adherence in sport teams, role involvement, adherence to group norms, collective efficacy and team performance. The purpose of the present study was to investigate the effects of a team building intervention on team cohesion in teams of young elite football players.



Method:

One hundred and fifty two male football players aged 12 to 19 were enrolled in the study (mean age = 15.69, SD = 1.75). Four teams were assigned to an intervention group (n = 74) and four teams to a control group (n = 78). A Danish version of the Group Environment Questionnaire (Carron, Widmeyer & Brawley, 2002) measures four dimensions of team cohesion, one of these being Group Integration - Social, and it was administered at baseline (T1), six weeks after intervention start (T2), and at the end of the intervention, after twelve weeks (T3). The intervention sessions took place once per week for 12 weeks and lasted 60 minutes each. The aim of the sessions was to increase overall team cohesion through individual exercises, discussions in small groups, discussions with the whole team and team building exercises.

Results:

A paired samples t-test revealed that Group Integration - Social significantly increased from T2 to T3 in the intervention group, but not in the control group (0.33, p = 0.46, r = 0.25).

Discussion:

The results suggest that team building can be used as an effective method to increase social group integration in young elite football teams.

Getting closer to cause and effect? Using advanced models to analyse change and relationships across time in sport and exercise psychology.

Organizer: Magnus Lindwall (Department of Psychology, University of Gothenburg, Sweden)

Discussant: Magnus Lindwall (Department of Psychology, University of Gothenburg, Sweden)

The analysis of change and particularly how different variables change together across time, are highly relevant underlying themes in many studies in sport and exercise psychology. Often, however, simpler methodological approaches and analyses are used to understand multivariate changes that are not suitable for unravelling more complex issues in terms of the dynamics of change. Some problems associated with these traditional methods are: (a) the change analyses are conducted on variable (manifest) level, thereby mixing unrelated sources of variances (noise) with true score change and effects; (b) they describe single individual's developmental trajectories but not individuals differences in these trajectories; (c) they do not test different competing hypotheses in terms of mutual causality and relationships across time (i.e., does data support variable X leading to variable Y across time, Y leading to X, or a reciprocal relationship across time); (d) they are not able to evaluate complex coupling effects between variables across time (e.g., is true change in variable X is related to true change in variable Y?). The symposium will describe a number of advanced models that together address the abovementioned problems of traditional methods. These methods include cross-lagged panel designs, multi-level modelling, latent growth curves and latent change score models. The relevance for using these advanced models on longitudinal data in sport and exercise psychology to answer complex research questions of change will be highlighted. Also, results from several studies in exercise psychology and physical education where these models have been used will be discussed.

Cross-lagged panel designs in exercise psychology.

Martin Hagger (School of Psychology and Speech Pathology, Curtin University, Australia)

Researchers in the discipline of exercise psychology often want to (1) identify whether one variable, often a psychological construct, 'causes' another, often behavioural, variable; and (2) confirm whether the relationship is solely causal in the stipulated direction or the other (e.g., the behavioural variable could equally influence the psychological construct), or whether the relationship is reciprocal (e.g., mutual cause). One of the problems with psychological research is that much of the data are cross-sectional and correlational. Such data limits the inference of causality because one is not able to model temporal change in the variables in a relationship or demonstrate change as the result of manipulation of one of the variables. While a particular causal relationship is theoretically plausible, falsifying such a hypothesis is not possible as an equally plausible argument, from an empirical standpoint, is that a causal relationship exists in the opposite direction. One alternative is to adopt longitudinal cross-lagged panel designs permitting researchers to model mutual causation as well as interindividual change or 'covariance stability' over time. This paper will present data from two empirical studies testing the cross-lagged (unidirectional and reciprocal) effects for (1) relations among



constructs from the theory of planned behaviour and (2) relations among depression, motivation, and physical activity. These examples demonstrate how such data helped resolve important questions regarding the temporal ordering and unidirectional or mutual effects among key psychological and behavioural variables. We also stress that such data are still correlational, limiting the extent to which causality can be inferred.

Multilevel modeling in exercise psychology.

Nikos Ntoumanis (School of Sport and Exercise Sciences, University of Birmingham, UK)

Multilevel modelling (MLM) is becoming an increasingly utilised statistical method to analyse longitudinal data in the field of sport and exercise psychology. The purpose of the talk is to outline some of the advantages of this method over traditional methods for the analysis of change. Another purpose is to illustrate, using examples from published data from a physical education-based study, the type of research questions that can be addressed by MLM. Results will be interpreted and explained in a non-technical language avoiding complex statistical formulas.

Latent growth curve and latent change score models in exercise psychology.

Magnus Lindwall (University of Gothenburg, Sweden)

In longitudinal research the following aims have been targeted as key objectives: (a) identification of intraindividual change; (b) identification of interindividual differences in intraindividual change; (c) analysis of interrelationships in change; (d) analysis of causes (determinants) of intraindividual change; (e) analysis of causes (determinants) of interindividual differences in intraindividual change. Latent growth curve models (LGC) and latent change score models (LCS) have been highlighted as particularly useful tools in the quest for these five aims. These latent longitudinal models allow researchers to analyse complex and dynamic change processes at factor (latent) levels and not just at variable (manifest) level, thereby being able to remove unrelated problematic source of variance. These models also afford great opportunities to go beyond simpler and more commonly used analyses of change and test competing hypothesis in terms of interrelations among constructs together with changes in those constructs across time, thereby capturing dynamic features of changes processes. This paper will give a non-technical overview of LGC and LCS models and discuss types of research questions that may be suitable to answer with the use of these models. Moreover, results from longitudinal studies in exercise psychology where LGS and LCS models have used will be presented. These studies highlight: (a) the interrelationship of change (coupling effects) between physical activity, fitness and cognition in older adults; (b) lead-lag relationships between physical fitness and cognition in old age.



Symposium Session 5 | Friday, July 15th | 14:30-16:00

Performing under pressure: the case of penalty kicks in football.

Organizer: Geir Jordet (Norwegian School of Sport Sciences, Norway)

Discussant: Sheldon Hanton (Cardiff School of Sport, University of Wales Institute, UK)

Penalty kicks in football (soccer) often decide games within regular game time and they are sometimes also used to identify a winner when two teams are tied in tournaments. This latter event is known as a vast pressure situation and the shooters' failure to live up to expectations of scoring may indicate that choking has taken place. In this symposium, three different perspectives are presented on the psychology of penalty kicks. First, analyses from international penalty shootouts are presented showing that choking under pressure in these situations seems to be a result of self-regulatory breakdown under high levels of ego threat. Second, evidence is presented that penalty takers showing avoidance behavior (turning one's back towards the goalkeeper when preparing the shot) are perceived more negatively by both kickers and goalkeepers. Third, a penalty shootout experiment is presented examining emotional contagion, that is, the transference of emotions from individuals onto teammates and opponents. The symposium will end with a discussion of further research and practical implications for coaches and players for improving performance on penalty kicks.

Choking under pressure in penalty shootouts as a case of self-destructive behavior under ego threat.

Geir Jordet (Norwegian School of Sport Sciences, Norway)

In this presentation, a series of studies is presented that illustrate different aspects of choking under pressure in international penalty shootouts. This includes data from in-depth interviews with players who have taken part in this event at the highest level; match record and video evidence from all penalty shootouts ever held in the World Cup, European Championships, and UEFA Champions League; and interventions with teams participating in some of these tournaments. It is found that the events are consistent with a model of choking under pressure that starts with favorable views of self. High level footballers have an enormous status in society and it is likely that this also sets them up for performing worse under pressure. The penalty shootout then presents a threat to one's esteem. Failure to score reflects failure to live up to the expectations of the situation, with dramatic negative consequences for the player in question. The players underachieve when they engage in self-defeating self-regulation strategies initiated to escape the unpleasant emotions associated with the pressure, which backfire and cause performance failure (self-destruction). The presentation is concluded with practical implications for practitioners in football and in other sports. Recommendations to prevent choking (reduce ego threat, normalize emotional distress, and optimize self-regulation) are also inspired by lessons learned from high-reliability organizations such as airlines and hospitals.

Avoidance behaviour and interpersonal perception in football penalty kicks.

Philip Furley (German Sport University Cologne, Germany)

Matt Dicks (MOVE Institute, Faculty of Human Movement Sciences, Netherlands)

Daniel Memmert (German Sport University Cologne, Germany)

A recent study by Jordet and Hartmann (2008) suggested that performance pressure leads penalty takers to display avoidance behaviour-not looking at the goal when preparing the penalty kick and rushing through the penalty preparation-which in turn is associated with negative penalty taking performance. In the present study, we investigated a potential mediating mechanism for this effect by showing point-light videos of the penalty preparation to both goal-keepers (n=21) and football players (n=26). We tested the assumptions that avoidance behavior, as defined by Jordet and Hartmann (2008), would both influence the impressions formed of the penalty taker and influence the expected success of penalty takers. The results demonstrate that penalty takers showing avoidance behaviour are perceived more negatively: (i) they are considered to possess less positive attributes, (ii) to have less accuracy in their penalties, and (iii) are expected to perform less well in penalty situations. We provided evidence for the assumption that turning one's back to the goalkeeper when walking back to prepare the run up and rushing through the penalty preparation are associated with negative athlete schemas. In consideration of self-efficacy theory (Bandura, 1997) which has consistently shown that outcome expectancy beliefs can potentially influence performance in sport settings, it seems feasible that the

results of the study might help explain the effect found by Jordet and Hartmann (2008).



On the importance of positive emotions and sharing goals in football penalty shootouts.

Gert Jan Pepping (Center for Human Movement Sciences, University of Groningen, Netherlands)

Research has shown that teams that show more positive and team oriented behavior after a penalty shot perform better during the penalty shootout. We investigated whether working in a team during a penalty shootout affects state anxiety of football players. Eight players from a first division football club (mean age 23 ± 0.74 years) and ten players from a professional football club academy (mean age 16.25 ± 0.62 years) took penalty shots under two task conditions. In the 'individual' condition players were made personally responsible for their result whilst in the 'team' condition players took penalties as if they were in a penalty shootout and part of a team. Trait anxiety was measured, and before and after each condition players filled out a state anxiety questionnaire. Preliminary results showed that players with a higher state anxiety performed better and experienced less fear than players scoring lower on state anxiety when performing as a 'team'. The results will be discussed in the context of emotional contagion, that is, the transference of emotions from individuals onto teammates and opponents. It is suggested that contagion of positive emotions by players that share goals results in the experience of less pressure, which enables them to perform better. Contagion of these emotions has opposite effects on opponents that share opposite goals, resulting in the experience of higher performance pressure, harming their performance. Emotional contagion is an important process to consider in the context of elite sport performance and training.

In top soccer, the "game" between penalty shooters and goalkeepers seem to reflect a mixed-strategy Nash equilibrium. Based on several analyses conducted on penalty kicks shot in top leagues and championship, it can be concluded that surprisingly, even though huge incentives are involved in professional soccer and the possibility of learning through feedback from outcomes of previous kicks is given, both penalty-kickers and goalkeepers are not optimizing their actions from an economical point of view. Specifically, goalkeepers are not solely interested in minimizing the chances of the goal, and kickers are not solely interested in maximizing these chances. It is possible that the participants in the penalty-kicks "game" have a different utility function, according to which they optimize their behavior in line with a "social rationality"-concept. To improve their performance, shooters should (a) base their strategy more on careful research rather than on intuition; (b) aim to the upper two corners of the goal; (c) use proper training - especially under simulated pressure - which should help them in reducing the possible miss rate. Goalkeepers (a) should not always jump to the left or to the right during penalty kicks; (b) could use more information to predict the direction of the shot; (c) could try and distract the shooter. More research is needed to further validate these conclusions and recommendations.

Developmental talent, athletic identity and resilience.

Organizer: António Rosado (FMH, Lisbon Technical University, Portugal)

Discussant: António Rosado (FMH, Lisbon Technical University, Portugal)

Sport psychology and sports coaches are professionals concerned about the development as well as the athletic performance of athletes with whom they work. Sport development, after all, is a process of growth and increasing competence assisted psychologists. Sport psychologists must focus on the athlete's psycho emotional difficulties and development as an individual, not only on performance enhancement. We have a diffuse body of research on the pathways whereby children and adolescents become motivated, directed, socially competent, compassionate, and psychologically vigorous as athletes and adults. We need to develop educational programs and research agendas that will assist athletes with performance, as well as with psycho emotional problems and life management and development. The symposium communications deals with some fundamental variables of sport development: parental support and parental education, the promotion of resilience skills, of the athletic identity and motivational climate for participating in sport.



Sport talent, practice and resilience: a study with male adolescent soccer players.

Inês Vigário (FMH, Lisbon Technical University, Portugal)
Sidónio Serpa (FMH, Lisbon Technical University, Portugal)
António Rosado (FMH, Lisbon Technical University, Portugal)

Nowadays the understanding of the development of sport talent considers genetics, practice, environment- athlete interaction and psychological contributions. The study of the relationship between sport talent and practise highlights the importance of deliberate practice and time devoted to it by the athlete. Literature shows also that the relationship between sport talent and psychological aspects as resilience is also important in talent development.

Given the above, we studied the relationship between talent and type of sports that have been practised, age of beginning of sport practise and competition, age of beginning and the total time of practice and competition in soccer and resilience, to differentiated talent athletes from no talent athletes.

Participants were male adolescents soccer players (N = 137), between 14 and 17 years (M = 15.57, SD = 0.69). Were considered talents all athletes that have participated in official soccer competitions and had already integrated regional and/or national teams in their age group or higher.

We applied a demographic and sport practice questionnaire and the Portuguese version of the Resilience Scale (RS), which was originally created in English by Wagnild and Young (1993).

We used multiple logistic regression to estimate the adjusted odds of being a talent. Among the independent variables studied, only resilience had a significant probability for the inclusion on the sport talent group meaning that the probability of being a talent increased with the level of resilience.

Parental involvement and children's development in football.

Pedro Teques (FMH, Lisbon Technical University, Portugal)
Sidónio Serpa (FMH, Lisbon Technical University, Portugal)

Over the last 20 years, the research has been revealing the importance of parental support on children's development in sport. Bearing in mind the model of parental involvement developed by Hoover-Dempsey and Sandler (2005), the purpose of this study is to examine the pattern of parental involvement in youth football across career phases. An inventory including twelve independent scales was administered to 206 fathers and mothers of young football players at various levels of performance. The parents were classified into three different groups accordingly to their children's stage of football development. In general, results suggest that perceptions of invitations from the sport institution, the coach, and the child were the strongest predictors of parent's involvement activities. Specifically, results suggest that parents whose children play football in the initiation phase reports more perceptions of invitations for involvement from the coach, in comparison to parents whose children play in the specialization and investment phase, and perceived more invitations for involvement from the young athlete, when compared to parents whose children play in the specialization phase. In addition, parents whose children play in the specialization phase presents more role responsibility in comparison to parents of children in the initiation and investment phase, and reports more modeling behaviors, when compared to parents whose children play in the initiation phase. In conclusion, this study adds confidence to the predictive capacity of the model in sport's parental involvement and some implications were suggested to the parental involvement research and intervention.

Psychometric properties of the Portuguese version of the Athletic Identity Measurement Scale-Plus.

Túlia Cabrita (U. Lusíada, Portugal)
António Rosado (FMH, Lisbon Technical University, Portugal)
Paulo Sousa (ISCE, Portugal)

Athletic identity is the degree of identification of an individual with the role of athlete, an important social dimension of self-concept influencing experiences, relationships with others and the involvement in sport activity. This study investigates the psychometric properties of the Portuguese version of the identity measurement scale AIMS-Plus (Cieslak, 2004), through confirmatory factor analyses.

503 athletes [356 male and 147 female; age (M=20.9; SD=7.1); 143 juveniles, 170 juniors and 190 seniors; 100 leisure, 300 competition and 103 elite] answered to AIMS-Plus to conduce validation questionnaire process.



We confirmed the psychometric qualities of the AIMS-Plus, confirming its multidimensional structure and the adequacy of Cieslak (2004) model to the study of Portuguese sport population, although we found some differences in the number of items from the original version. According to Cieslak's athletic identity model (2004) we confirm the model of five dimensions to explain the multidimensionality of athletic identity: 1) social identity, 2) exclusivity, 3) negative affectivity, 4) self-identity and 5) positive affectivity.

Confirmatory factorial analysis confirmed a good fit of the athletic identity model ($GFI = 0.910$, $CFI = 0.932$, $RMSEA = 0.085$, $\chi^2(df)=451,167$; $\chi^2/df=5.308$). All estimated parameters were statistically significant and within an acceptable range.

For composite reliability we found social identity=0.75, exclusivity=0.80, self-identity=0.78, negative affectivity=0.84 and positive affectivity=0.86. For convergent validity we found social identity=0.50, exclusivity=0.57, self-identity=0.55, negative affectivity=0.63 and positive affectivity=0.66.

However, additional psychometric studies are needed to consolidate its psychometric qualities in that some differences to the original scale were found.

Korfball players perceptions of motivational climate and motivational orientation.

Vitor Ferreira (FMH, Lisbon Technical University, Portugal)

Catarina Miranda (FMH, Lisbon Technical University, Portugal)

António Rosado (FMH, Lisbon Technical University, Portugal)

Introduction:

Achievement goal theory is a widespread theoretical perspective for studying motivation (Ames, 1992; Nicholls, 1984). Two constructs of the theory had received special attention in sport literature, namely, task orientation and ego orientation (Roberts, Treasure, & Conroy, 2007). A mastery climate underscores learning, skill mastery, effort, and social relations and performance climate emphasizes social comparison, normative-based evaluation, and competition rather than cooperation. The perception of motivational climate is proposed as a situational variable that moderates the influence of individual goal orientation. The objective of the study was to examine the relation of individuals' dispositional goal orientation (task/ego) and perceived sport motivational climate (mastery/performance).

Methods:

Participant's were thirty two players from 5 teams (three of U-16 and two of U-19) participated in the study. The mean age of the participants was 15.7 years ($SD=1.4$). We used the Portuguese version of the Perceived Motivational Climate in Sport Questionnaire (PMCSQ-3, translated by Penedo, Dias & Serpa, 2000, in Dias, 2001) and to assess dispositional tendency towards task or ego involvement we used the Portuguese version of TEOSQ (Fernandes & Serpa, 1997, in Dias, 2001). We described data using descriptive statistics and Pearson product moment correlations between measures are reported using software SPSS 17.0.

Results and Conclusions:

Generally, players recognize a motivational climate high for the task and medium or low for the ego. Considering relations between perceptions of motivational climate and motivational orientation we saw that mastery climate were positively related to task motivational orientation and negatively associated with performance worries. In contrast, perceptions of a performance climate were positively associated with concerns about failing and the adequacy of one's performance and negatively correlated with task orientation. Analyzing the results we emphasize the relation between motivational task orientation and perception of mastery climate.

Risk and emotion.

Organizer: Tim Woodman (Institute for the Psychology of Elite Performance, Bangor University, UK)

Discussant: Tim Woodman (Institute for the Psychology of Elite Performance, Bangor University, UK)

This symposium presents recent research developments in the field of risk and emotion in sport. The first presentation is by Christine Le Scanff on the relationship between alexithymia (difficulty identifying and expressing one's emotions), attachment style, and the risk of eating disorders in aesthetic and weight category sports (e.g., gymnastics, judo). The second and subsequent studies focus on what are traditionally viewed as high-risk sports (i.e., those sports where an error or accident can lead to severe injury or even death; e.g., skiing, skydiving, mountaineering). Cynthia Thomson presents data from a research project



concerned with the development of a sensation seeking measure for skiing and snowboarding and shows that the measure has significant associations with both single and multiple variants of dopamine-associated genes. The third and fourth presentations are both part of a large-scale project that is centred on the development and validation of a measure of the motives for engagement in high-risk sport. The first of these two presentations is by Lew Hardy who explains the rationale and development of a three-factor scale for such motives: sensation seeking, emotion regulation, and agency. The final study is presented by Matthew Barlow who presents data from this three-factor scale and shows that mountaineers have different psychological (emotion regulation and agency) needs than other high-risk sport participants. Each presentation will be followed by specific questions from the floor and the symposium will end with general questions from the floor.

Alexithymia and attachment style in high-level athletes' disordered eating.

Christine Le Scanff (Université Paris-Sud, France)
Fanny Andrès (Université Paris-Sud, France)
Carole Castanier (CIAMS, UFR Staps Paris-Sud, France)

Some athletes appear at risk of disordered eating linked to performance achievement (Afflelou, 2009) with some sports (i.e., artistic, weight categories) more exposed than others (Filaire et al., 2007). Two psychological aspects seem particularly important but have rarely been explored with athletes: alexithymia (inability to recognise and to verbally express emotions; Sperenza et al., 2003) and attachment style (Tasca et al., 2006). After examining the prevalence of eating disorders in high-level athletes (judo, wrestling, artistic, team sports), this study explores the link between alexithymia, attachment style, and disordered eating. 300 high-level athletes (100 judo and wrestling athletes, 100 artistic gymnasts, and 100 team-sport control athletes) completed the EAT 26 (disordered eating; Leichner et al., 1994), the TAS-20 (alexithymia; Bagby et al., 1994) and the IPPA-R (attachment style; Vignolet & Mallet, 2004). 13% of the artistic and weight control athletes presented eating disorder problems. Anorexia seems more prevalent (75% of the participants) than bulimia. These results confirm previous studies (13.5% eating disorders; Sundgot-Borgen & Torstveit, 2004). Results showed a relationship between the difficulty in recognizing one's feelings and anorexia ($r = 0.22$) and between the difficulty in describing one's feelings and bulimia ($r = 0.15$). Insecure attachment style had a positive relationship with both anorexia ($r = 0.16$) and bulimia ($r = 0.15$). No such relationship was found with the control group. Despite their relationship with performance, athlete's eating disorders seem to have psychological similarities with a clinical population. These results are discussed in term of emotional regulation and prevention.

The genetics and behaviours of high-risk sport enthusiasts.

Grégory Michel (Université Bordeaux, France)
C. J. Thomson (School of Human Kinetics, University of British Columbia, Canada)
C. W. Hanna (School of Human Kinetics, University of British Columbia, Canada)
S. R. Carlson (Department of Psychology, University Minnesota Duluth, USA)
J. L. Rupert (Department of Psychology, Université Bordeaux, France)

Sensation seeking (SS) involves a desire to seek out new and thrilling experiences and has been linked to both socially unacceptable behaviours such as drug-abuse, and to less stigmatized 'risky behaviours' such as high-risk sports (e.g., skydiving). The sensation of excitement (the 'high') associated with these behaviours is related to the release of the neurotransmitter dopamine. Common variations in dopamine-pathway genes have been associated with approach-related traits, including novelty seeking and extroversion, in some (but not all) studies. However, few studies have measured SS and none have investigated risk-taking behaviour in extreme sports. We have developed a reliable questionnaire to better evaluate SS behaviours in the context of skiing and snowboarding. The preliminary data looking at a single variant (-521 C/T of the dopamine-4-receptor gene, DRD4) shows a significant association with SS ski-behaviours in both men and women from Western Canada ($p < .05$, $N = 532$). We are now investigating the association between multiple genetic variants in the dopamine and dopamine-related genes and SS behaviour in skiers and snowboarders ($N = 722$). Our next phase involves testing the association(s) found in the skiers in new populations using a case-control design. We will recruit high-risk (e.g., extreme skiers, B.A.S.E. jumpers) and low-risk (e.g., cross country skiers, golfers) participants in France (February, 2011). We will compare both personality data and the frequencies of genetics variants between groups. Our findings will hopefully contribute to a theoretical understanding of the innate factors that may influence sensation seeking.

Motives for participation in high-risk sport: development of the Sensation Seeking, Emotion Regulation, and Agency (SEA) scale.



Lew Hardy (Institute for the Psychology of Elite Performance, Bangor University, UK)
Matthew Barlow (Institute for the Psychology of Elite Performance, Bangor University, UK)
Tim Woodman (Institute for the Psychology of Elite Performance, Bangor University, UK)

The sensation seeking scale (SSS-V, Zuckerman et al., 1978) has been shown to be a valid and reliable instrument for identifying individuals with the propensity or desire to engage in so-called sensation seeking activities. The SSS-V does not measure motives for engagement in high-risk sport and cannot be used for such a purpose. Recent research has focused on emotion regulation and agency as motives for participation in high-risk sport and has highlighted the need for a domain-specific measure of them as motives for participation in high-risk sport (see, for example, Woodman et al., 2010). The present paper reports two studies that chart the development of a measure of Sensation Seeking, Emotion Regulation, and Agency (the SEA scale) as motives for participation in high-risk sport. The measure consists of three separate questionnaires rating participants' percepts and experiences across three time points: between participations, during participation, and after emotion regulation. The final SEA scale consists of three, 18-item questionnaires that demonstrate good model fit, adequate internal consistency, and good alpha reliability levels participation. The between participations questionnaire measures three factors: need for sensations; difficulty regulating emotions; and diminished agency. The while participating questionnaire measures three factors: experience of desired sensations; experience of intense emotions; and agentic experience. The after participating questionnaire originally also measured three factors, but confirmatory factor analysis suggested that these could be collapsed to just two factors: satisfaction of need for sensations; and transfer of agentic

Mountaineering and skydiving: different motives from an agentic emotion regulation perspective.

Lew Hardy (Institute for the Psychology of Elite Performance, Bangor University, UK)
Matthew Barlow (Institute for the Psychology of Elite Performance, Bangor University, UK)
Tim Woodman (Institute for the Psychology of Elite Performance, Bangor University, UK)

The sensation seeking scale (SSS-V, Zuckerman et al., 1978) has been shown to be a valid and reliable instrument for identifying individuals with the propensity or desire to engage in so-called sensation seeking activities. The SSS-V does not measure motives for engagement in high-risk sport and cannot be used for such a purpose. Recent research has focused on emotion regulation and agency as motives for participation in high-risk sport and has highlighted the need for a domain-specific measure of them as motives for participation in high-risk sport (see, for example, Woodman et al., 2010). The present paper reports two studies that chart the development of a measure of Sensation Seeking, Emotion Regulation, and Agency (the SEA scale) as motives for participation in high-risk sport. The measure consists of three separate questionnaires rating participants' percepts and experiences across three time points: between participations, during participation, and after participation. The between participations questionnaire measures three factors: need for sensations; difficulty regulating emotions; and diminished agency. The while participating questionnaire measures three factors: experience of desired sensations; experience of intense emotions; and agentic experience. The after participating questionnaire originally also measured three factors, but confirmatory factor analysis suggested that these could be just two factors: satisfaction of need for sensations; and transfer of agentic collapsed to emotion regulation. The final SEA scale consists of three, 18-item questionnaires that demonstrate good model fit, adequate internal consistency, and good alpha reliability levels.

We compared expeditionary mountaineers ($n = 46$), skydivers ($n = 103$) and low-risk sport controls ($n = 47$) using the SEA (Sensation seeking, Emotion Regulation, Agency) scale. Traditionally, researchers have viewed high-risk sport participants as a homogenous group who engage in high-risk sport because of a need for sensation. However high-risk sports have different demands; for example, whereas expeditionary mountaineering involves toil and hardship that can last many weeks, skydiving provides a greater opportunity for thrill and is relatively short. In the present study, compared to mountaineers and controls, skydivers reported significantly greater sensation seeking during ($F(2,193) = 10.07, p < .001$), after ($F(2,193) = 7.73, p < .001$) and between ($F(2,193) = 4.70, p < .01$) participation. Of more central interest, the results suggest that mountaineers' significantly greater sense of agency ($F(2,193) = 17.24, p < .001$) and emotion regulation ($F(2,193) = 27.40, p < .001$) while participating facilitates a significantly greater agentic emotion regulation



transfer ($F_{2,192} = 7.04, p < .001$) into other domains of their life (i.e., outside of the high-risk sport domain). A multivariate analysis revealed that mountaineers' greater desire for this transfer was driven by their expectations regarding emotion regulation and agency: mountaineers had a significantly greater expectation than both skydivers and controls regarding agency ($F_{4,384} = 2.41, p < .05$) and emotion regulation ($F_{4,384} = 2.60, p < .05$) in their life outside high-risk sport. In conclusion, mountaineering appears to be motivated by the experience and subsequent transfer of agency and emotion regulation.

Europeans in Europe: pros and cons, does and don'ts... lessons from the past and tips for the future to develop successful careers in Europe!

Organizer: Xavier Sanchez (University of Groningen, Netherlands)

Discussant: Tatiana V. Ryba (Aarhus University, Denmark)

Globalisation is everywhere and the field of sport in general, and that of sport and exercise psychology in particular, are part of such a reality. European programmes, whether at undergraduate or postgraduate levels, facilitate and encourage students to study abroad and discover other cultures, languages, and ways of live in general. An increasing number of opportunities, at the professional level, encourage people to experience life abroad after these student experiences. Although for Europeans developing a career within Europe should, at least from a 'paperwork' perspective, not be much of a problem, this is far from being true. Cultural differences, system differences, professional standards differences, even weather differences (!) make the experience of developing a successful career abroad a bit more challenging than first expected... The purpose of the present symposium is, based on the different case-examples including different nationalities and different countries, to inform and discuss best strategies to increase positive experiences when deciding to 'evolve abroad' in the field of sport and exercise psychology.

From Germany to Denmark with a stop in the UK.

Anne-Marie Elbe (University of Copenhagen, Denmark)

Having studied as well completed my PhD and "habilitation" (post-doctoral lectureship qualification) mainly in Berlin and Potsdam, Germany (with some stops in the US) I accepted a senior lecturer position in the UK in 2006. Transferring to the UK meant entering into a system with year-long experience of bachelor and master studies. I was rather unprepared for the implications this system has on all aspects of working in academia (e.g. role of the lecturer, students as customers, academic freedom). However, my time there was an extraordinary learning experience and good preparation for my post as associate professor at the University of Copenhagen in Denmark. In Denmark I now have the pleasure of working with the happiest people in the world, being a member of a department that strongly values a positive and supportive working environment and of learning another language that even Norwegians and Swedes can understand. Although transitions have not always been easy, bureaucracy can be a nightmare and balancing career and family life which includes two children is an ongoing challenge, I can only recommend to embark on an European career. If you are open-minded, flexible and willing to learn, it will be one of the most valuable and fascinating journeys of your life!

From Portugal to Spain with a stop in the US.

Catarina Sousa (Autonomous University Barcelona, Spain)

I graduated in Psychology in Portugal and I started working in Human Resources for two years. After this period I realized that we spend a great amount of time working, so I decided to have a job that fulfilled me. I gave up the human resources job and completely moved to Barcelona where I did the PhD in SP at UAB. During the PhD I did two stays of investigation (Lisbon and Seattle). Once the PhD finished I went back to Portugal for a year but I felt a foreigner in my own country. To continue developing my career in SP I flew to the U.S. to submerge into a PostDoc at UCLA for a year. Now I'm back to Barcelona where this adventure began. During my abroad experiences I have learnt different and efficient ways to work, I have had opportunities to work in SP and I saw my work outcomes and effort rewarded. The more negative experiences occurred essentially during the beginning - adaptation phase - related with differences on academic system, not having superior command of the foreign language and "weather and distance affects". If I could go back to the past I'll take the same decision but earlier. Take into account social, cultural, climate and professional factors to



choose the city/country to study/work abroad. Planning in advance is important to be successful and shorten the adaptation phase. Be persistent and committed with your decision and keep in mind your own reason(s) to be abroad.

From Greece to the UK via France and a few stops on the way.

Sakis Pappous (University of Kent, UK)

Mobility and interdisciplinary: the two principal elements of the "Common European Research Area" have guided me in my academic European trip which started with a BSc in Sport Sciences, from the University of Athens, Greece; the second stop was Spain (MA in Health & Physical Activity and PhD in Exercise Psychology, University of Granada). The third stop took the form of a Post-doctoral appointment (Marie Curie Intra-European Fellowship) at the University of Montpellier, France. Every trip worth taking contains positive aspects and also some negative ones. Working in four European countries was eye-opening academically and personally. Thanks to these experiences I now feel that I am more respectful of other cultures and political and economic systems, this helps me in my everyday working life experience as I have the pleasure to collaborate with colleagues and students from diverse backgrounds. The pitfalls encountered in this trajectory are mostly related to bureaucratic issues: EU countries are free to apply their own rules, e.g. whether or not to recognise your academic qualifications obtained in another EU country, paying tax as a post-doc has also been complicated. Future European researchers should also be prepared to sometimes face contempt and suspicion from academics that they have not followed the same paradigm; the route will not be always covered in flowers, especially for those researchers who decide to not only pass over physical frontiers (mobility) but also frontiers of knowledge (interdisciplinary). But as Erasmus of Rotterdam, the pioneer European Scholar, said: "Fortune favours the audacious".

From the Netherlands to the UK with a stop in Sweden.

Carla Meijen (University of Kent, UK)

I knew that I wanted to study sport psychology when I was still in high school, sport psychology was, however, not a possibility as a degree course in the Netherlands. I completed a "drs." (equivalent to MSc) in social psychology at the University of Amsterdam and took the only available sport psychology module, whilst applying sport psychology to other modules where possible. During my undergraduate studies, I did a placement at Lund University, Sweden, where I worked with two sport teams. Next, I completed an MSc in Performance Psychology at the University of Edinburgh. After a brief spell working for an applied practitioner in the Netherlands, I decided to pursue a full time PhD and secured a place at Staffordshire University. Working with people and institutions from different countries has taken me out of my comfort zone many times, yet this has increased my understanding of various approaches in sport psychology. Also, being able to study a PhD topic including topics that I was not familiar with has been a useful experience and a very steep learning curve. I would have liked, however, to have taken more sport science related modules, like nutrition, physiology, and biomechanics, during my degree. This might not always be possible, self-study on these topics is an alternative way to achieve a more rounded understanding of athletes' thoughts, feelings, and behaviour. My advice is to try to get out of your comfort zone at times, but do not forget to enjoy what you are doing.

From Luxembourg to Spain with a stop in Germany.

Francis Ries (University of Sevilla, Spain)

After my school studies in Luxembourg, I continued my education at university level at the Institute of Sport Sciences (University of Hannover, Germany) and completed my "German years" with a Master in Sport Sciences at the University of Saarland. After a one-year job at the Universal Exposition of Seville (Spain) and 10 years working as a physical education teacher in Luxembourg and Spain, I obtained a Master Degree in Sport Psychology at the University of Seville. In 2005, I started my PhD studies at the same university, defending the doctoral thesis in 2009 on a cross-cultural application of an extended model of the Theory of Planned Behavior in a physical activity context. Reconsidering the past years, my formative years in Germany are the most positive experiences, being the most unpleasant experience the 4 years of paperwork to get my degrees approved in Spain. If I had to start again, I probably would do the same training, but I would try to apply earlier for a job at the university and of course in the field of sport psychology. From my point of view,



the more international an academic training is and more languages are mastered, more interesting will be the future development of the own career. As a take-home message may I suggest not to be afraid of new experiences, both personal and professional, you never know what horizons they will open to you.

Methodical consulting - Advancing high quality services in sport psychology.

Organizer: Christian Heiss (Universitaet Potsdam, Germany) & Ralf Brand (Universitaet Potsdam, Germany)

Discussant: Roland Seiler (University Bern, Switzerland)

Interest in applied sport psychology has constantly grown over the past years, resulting in an increasing number of applied sport psychologists working with elite athletes and teams within practice and competition. However consistent standards of how to ensure high quality sport psychological services are currently missing. Consequently the following symposium will present current contributions from applied sport psychological research towards a more methodical sport psychological consulting process. The presentations will focus on evidence based sport psychological services from different perspectives, linking knowledge to diagnostics to intervention (e.g. the institutional framework, athletes, coaches, talents).

Landesteam Sportpsychologie Brandenburg - Establishing structures for evidence based practice.

Christian Heiss (Universitaet Potsdam, Germany)

Judith Lockingen (Universitaet Potsdam, Germany)

Ralf Brand (Universitaet Potsdam, Germany)

Sport psychological counselling must be based on sound scientific evidence (Brand, 2010). In order to meet this requirement it is necessary to link present research to applied sport psychology. In January 2010 the Olympic Training Centers of the Federal State of Brandenburg (Germany) has established an institution called the "Landesteam Sportpsychologie Brandenburg" (Team Sport Psychology Brandenburg; TSPB), and has allocated it at the Universitaet Potsdam's Department of Sport and Exercise Psychology. With our presentation we aim at illustrating TSPB's 2010 outputs:

First, all elite student athletes (from age 12 to 16) educated at one of Brandenburg's special schools for gifted athletes receive preventive psychological skills training as a part of their regular school curriculum (from school class levels 7 to 10). Practicing takes place in group sessions focussing on transferring skills and knowledge in practice in a way that young elite athletes are guided how to integrate fundamental psychological skills (e.g. relaxation skills) into regular training and competition. This training set up is highly structured with regard to topics and methods.

Second, sport discipline specific group targeted psychological skills trainings are offered, primarily aiming at enhancing and consolidating preventive psychological skills. Set up and content are highly tailored to the needs of the involved coaches and athletes for example by taking previous knowledge and experiences in sport psychology into account.

Third, client-centered psychological consulting is open to all individuals, i.e. elite athletes and not the least their coaches. Appointments can be arranged individually. Supplemental weekly consultation hours secure high availability of sport psychological services for all stakeholders.

Finally, a total quality management was implemented to ensure that the same high quality service is offered for student athletes, just starting their career in high performance sports, as well as for highly successful athletes, including all Brandenburg's World and Olympic champions.

Coping with team transitions in elite english male cricket: a longitudinal investigation.

Jon Finn (Leeds Metropolitan University, UK)

Jim McKenna (Leeds Metropolitan University, UK)

Objectives:

This paper aims to help applied sport psychologists provide high quality support services to athletes experiencing demanding academy-to-first-team transitions. Specifically the present research aims to prospectively examine the nature of first year professional contracts within elite English cricket in relation to: 1) Sources of strain for the cricketers; 2) Coping strategies cricketers' used and were influenced to use; and



3) Uniquely, cricketers' use of meaning-focused coping (MFC) strategies.

Design:

A longitudinal interpretive qualitative method of enquiry was used.

Method: Two cricketers (M age = 20.8 years) in the first year of their professional contracts, and their coach, completed a total of 19 interviews over a period of 7 months, the duration of one cricket season.

Results:

Transcribed verbatim will be analyzed to inductively develop individual casual network for each participant. Once the inductive analysis procedures are complete, deductive cross-case analysis will then be applied to the data.

Conclusions:

The conclusions drawn from this study will inform applied sport psychologists of the real-time demands which elite athletes face during their transition from academy-to-first-team. Further it will emphasize how athletes cope in anyone moment, but also how athletes' coping strategies develop over the course of a season. Finally, the use and development of MFC strategies by young athletes will also be discussed.

Considering talent development within an Italian professional football club.

Chiara D'Angelo (Catholic University, Italy)

Caterina Gozzoli (Catholic University, Italy)

This work aims to present an action-research study on talent development (TD) carried out within the youth section of AC Milan Football Club in 2009/2010. It has been planned from a psychosocial perspective (Manzi & Gozzoli, 2009), considering talent not only as an inborn trait of a person, but as something that has to be nurtured and accompanied. The project involved athletes and coaches of the AC Milan youth section, primarily aiming at making the athletes' and coaches' mental representations of talent explicit. These representations should be transformed into more multidimensional concepts in order to identify possible activities of further fostering talent.

Forty-five athletes attended seven group-sessions, during which several tools (group discussions, videos, professional football players' experiences) were offered that should help players to re-think their careers as being a young football talent. At the same time, thirteen coaches attended the same number of group-sessions. They were asked to mutually confront themselves with their representations of sport talents, using tools such as case analysis, schedules to identify and support young talents, etc.

All sessions were recorded and contents have been fully transcribed. At the moment content-analyses are performed with support of the ATLAS.ti software tool. Preliminary results suggest that athletes create interesting and complex maps including all the persons who influence their growth as talents (coaches, family, friends, persons of the club, etc.). Furthermore, coaches showed to experience increased awareness of their professional roles in terms of influencing talent players' motivation and development.

Psychogenic urine retention during doping controls: an analysis of psychological determinants.

Marius Schlegel (Universitaet Potsdam, Germany)

Anne-Marie Elbe (University of Copenhagen, Denmark)

Ralf Brand (Universitaet Potsdam, Germany)

Professional athletes have to regularly undergo doping-controls. During a typical doping control, athletes need to provide 90ml of urine under visual control of a doping control agent. In over 50% of these cases delays occur because the athletes experience a sudden inability to urinate and 46% of these delays exceed one hour (Strahler & Elbe 2007; 2009). This problem is termed psychogenic urine retention (PUR) and has been shown to be a distinct construct from paruresis, the inability to urinate in public restrooms. The consequence of PUR is a loss of efficiency for the doping control system and a stressful event interfering with the recovery phase of the individual athlete. Every second affected athlete and every third doping control agent name psychological reasons as the underlying cause for psychogenic urine retention. In order to investigate some psychological reasons for psychogenic urine retention, the variables psychological reactance, proactive coping and cultural orientation have been investigated among German speaking professional athletes. The hypothesis is that lower proactive coping ability, higher psychological reactance and a more individualistic cultural



orientation are connected to higher frequency and severity of the above mentioned problems during doping controls. The presentation aims at providing basic evidence on PUR's etiology and illustrates at hand strategies for applied sport psychologists.

Face your fear - A cognitive-behavioral sport psychological intervention for rock climbers.

Kai Engbert (Technische Universität München, Germany)

Tanja Werts (Technische Universität München, Germany)

The present study evaluates the efficacy of a 1-week training program dealing with anxiety in rock climbing. The training uses interventions from cognitive-behavioral therapy, helping recreational climbers to deal with the psychological requirements of this sport. By that, it allows evidence based individual counseling and avoids anxiety related problems in safety.

Psychophysical as well as self report data were analyzed. First, the experimental group (EG, N = 13) was evaluated by measuring heart rate in equivalent fall-situations before and after the training (within design). Second, self report data (ratings of anxiety and related cognitions) were compared with two control groups (N = 13, between design). Control group (1) was a lead climbing course without sport psychology training and control group (2) was climbing without any additional training. Results show a significant decrease of heart rate in equivalent fall-situations over the time. Moreover, the EG showed an increase in functional self referred cognitions as well as a significant reduction of anxiety.

In conclusion, the present study indicates that interventions from cognitive-behavioral therapy can be transferred into applied sport psychology. This leads the way to an evidence-based counseling and can be used in other sport-related forms of anxiety.

Adaptive and maladaptive motivational environments in sport, physical education and dance settings.

Organizer: Nikos Ntoumanis (University of Birmingham, UK)

Discussant: Glyn Roberts (Norwegian School of Sport Sciences, Norway)

The proposed symposium utilises a variety of conceptual and methodological perspectives to examine the predictive effects of adaptive and maladaptive contextual factors in three different settings: sport, school physical education and dance. Six papers are included in the symposium presented by researchers who are on the cutting-edge of motivation research. These papers have their conceptual underpinnings primarily on achievement goal and self-determination theories and use a variety of methodologies (cross-sectional, longitudinal, meta-analysis, and interviews) to understand the contextual factors that predict psychological well-being/ill-being, moral attitudes, intentions and motivation. Implications for theoretical integration and intervention work will be discussed.

Perceived coaching behavior and its relationship to indices of burnout in young competitive swimmers.

P. N. Lemyre (Norwegian School of Sport Sciences, Norway)

B. E. Rustad (Norwegian School of Sport Sciences, Norway)

The achievement criteria emphasized by coaches as well as the way in which they relate to athletes is believed to have an effect on the athletes' well-being (Nicholls, 1989). The purpose of this research project was to examine how Norwegian swimmers perceived their coaches' behavior and emphasized criteria of success, and how these may be related to athlete burnout indices. In order to assess how the motivational climate emphasized by the coach was related to burnout in a young competitive swimmers population, 202 male and female Norwegian swimmers (ages 14-24) completed a set of questionnaires (i.e., the Motivational Climate Scale for Youth Sports, the CBAS-PBS, the Athlete Burnout Questionnaire, the Subjective Vitality Scale, and the PANAS). Canonical correlation analyses were conducted to determine the multivariate relationship between the perceived motivational climate and burnout indices. Consistent with earlier findings, results indicated that athletes who perceived coaching behaviors that emphasized positive reinforcement, mistake-contingent encouragement, corrective instruction given in a positive and encouraging fashion, and proper technical instruction (Smith, Fry, Ethington & Li, 2005; Smoll & Smith, 2006) reported lower levels of burnout and



higher levels of vitality and positive affect. In contrast, the perception of coaches' behavior as emphasizing punitive technical instruction and encouraging an ego-involving climate was positively correlated to all three dimensions of burnout. Based on these findings, it is necessary to emphasize the importance of increasing awareness over coaching behavior in youth sport to prevent burnout and promote positive sport participation outcomes in youth sports.

A longitudinal examination of coach and peer motivational climates in youth sport.

N. Ntoumanis (University of Birmingham, UK)
I. M. Taylor (Loughborough University, UK)
C. Thøgersen-Ntoumani (University of Birmingham, UK)

Embedded in achievement goal theory (Ames, 1992; Meece, Anderman & Anderman, 2006), this study examined how perceptions of coach and peer motivational climate in youth sport predicted moral attitudes, emotional well-being and indices of behavioral investment in a sample of British athletes competing in regional leagues. Adopting a longitudinal perspective, measures were taken at the middle and the end of a sport season, as well as at the beginning of the following season. Multilevel modeling analyses showed that perceptions of task-involving peer and coach climates were predictive of more adaptive outcomes compared to perceptions of ego-involving peer and coach climates. Predictive effects differed as a function of time and outcome variable under investigation. The results indicate the importance of considering peer influence in addition to coach influence when examining motivational climate in youth sport.

Teacher and peer influence in physical education classes: cross-cultural comparisons.

C. Lonsdale (University of Western Sydney, Australia)
I. M. Taylor (Loughborough University, UK)

The purpose of this study was to assess the impact of social influences initiated by teachers and peers on PE students' effort, enjoyment and physical self-concept. We collected self-report data from 1678 Hong Kong students and 616 UK students (age range = 10 to 18 years). Structural equation modeling ($\chi^2 [685] = 3382.02$, $p < .001$; CFI = .93, SRMR = .06; RMSEA = .05) indicated that teacher praise was strongly and positively related to students' enjoyment, effort and self-concept (standardized coefficient = .56 to .60, $p < .05$), while peer praise was only weakly and positively related to these outcomes (standardized coefficient = .06 to .10, $p < .05$). Teacher criticism was weakly and negatively related to effort and enjoyment (standardized coefficient = -.08 to -.14, $p < .05$), while peer criticism was unrelated to student outcomes ($p > .05$). Multi-group analysis indicated that these relationships were largely invariant (CFI < .01) across cultures. However, there was some evidence (χ^2 , $p < .05$) that the relationships between teacher criticism and effort, as well between teacher praise and physical self-concept were stronger on in the UK sample.

Creating a caring climate: reflections from physical education teachers.

Lori A. Gano-Overway (Bridgewater College, USA)

Self-determination theory states that fluctuations in motivation relate to how the social context may nurture or thwart basic psychological needs of autonomy, competence, and relatedness (Deci & Ryan, 2007). One aspect of the social context that may play a role is the caring climate (Newton, Fry et al., 2007). For example, developing a caring climate in a summer physical activity camp resulted in higher levels of future participation than a traditional group (Newton, Watson et al., 2007) and perceptions of a caring climate among youth soccer players were positively associated with sport enjoyment and commitment (Fry & Gano-Overway, 2010). Given the apparent influence that the caring climate may have in nurturing motivational outcomes, the intent of this investigation was to explore how physical educators develop caring classrooms. Six middle school teachers, who were rated as caring by students, were interviewed. Teachers were provided a general definition of caring and using a semi-structured interview guide were asked to elaborate on the ways in which they create a caring environment. Interviews last approximately 45 minutes. Using an inductive content analysis approach the raw data quotes were clustered into thematic categories and compared and contrasted to insure uniqueness among the emergent themes (Patton, 2002). Seven major themes emerged focusing on inclusion, relationship development, interest in student development, encouragement to care, gentle discipline, autonomy, and enjoyment. Results provide support for conceptual frameworks in the caring literature and



further inform practitioners how to work toward developing a caring climate within their own physical activity setting.

Transferring motivation from educational to leisure-time contexts: a review and meta-analysis.

M. S. Hagger (Curtin University, Australia)

N. L. D. Chatzisarantis (Nanyang Institute of Technology, Singapore)

Students' self-determined or autonomous motivation in physical education (PE) is associated with adaptive educational and behavioural outcomes in PE contexts. A key question for educators is whether promoting autonomous motivation toward activities in a PE context leads to increased autonomous motivation toward related activities in leisure-time contexts. A transcontextual model is presented that demonstrates the processes by which autonomous motivation toward physical activity is transferred from PE to leisure-time contexts. Using an integrated, multi-theory approach including self-determination and planned behaviour theories, a motivational sequence is proposed in which perceived autonomy support from PE teachers leads to autonomous motivation in PE but also to autonomous motivation toward physical activity in leisure-time contexts. Autonomous motivation toward physical activity in a leisure-time context is proposed to be associated with attitudes, perceived control, and intentions to perform physical activities in future and actual physical activity behaviour. A meta-analysis of recent research that has adopted the model supports these basic premises and the transfer of autonomous motivation toward physical activity from PE to leisure-time contexts. The applicability of the model as a basis for interventions in PE to promote motivational transfer in contexts outside of school is discussed.

Day-to-day experiences of autonomy supportive teaching: a diary methodology in elite dance.

E. Quested (University of Birmingham, UK)

J. L. Duda (University of Birmingham, UK)

N. Ntoumanis (University of Birmingham, UK)

J. P. Maxwell (University of Hong Kong, HK)

Self-determination theory (SDT) posits the degree of autonomy support provided by teachers or coaches to be an important determinant of the basic psychological need satisfaction (BPNS) and well- and ill-being experiences of elite performers (Deci & Ryan, 2000). Research undertaken in the domain of vocational dance found changes in perceived autonomy support to predict changes in basic psychological need satisfaction (BPNS) during the dance school year (Quested & Duda, in press). Yet little is known regarding the relevance of daily provision of autonomy support for day-to-day fluctuations in BPNS and well-being. Using a daily diary methodology, this study examined whether dancers' perceptions of autonomy support in each class predicted their degree of BPNS after class and changes in affective states during class. We also examined whether 'typical' perceptions of autonomy support provision within the school predicted daily fluctuations in BPNS and positive and negative affect. Fifty five dancers (Mage = 20.58 years, SD = 2.59) studying ballet, contemporary and Chinese dance were recruited from an elite dance conservatoire in Hong Kong. Dancers completed an initial questionnaire and daily diaries tapping the targeted variables before and after daily classes over a four week period. Multilevel modeling analyses revealed supported the tenets of SDT regarding the role of daily provision of autonomy support for day to day experiences of healthful dance engagement. Findings point to the importance of daily provision of need supportive dance training if dancers are to experience optimal affective states in dance classes.

Measurement issues related to motor imagery ability.

Organizer: Aymeric Guillot (CRIS, University Claude Bernard Lyon 1, France)

Discussant: Paul Holmes (Institute for Performance Research, Manchester Metropolitan University, UK)

Measuring individual differences in motor imagery (MI) ability remains a systematic problem that must be resolved by experimenters, coaches, and athletes. Use of simple subjective scales such as the analogue visual scale has had limited success, and researchers early on proposed more reliable methods including psychometric tests, qualitative procedures, chronometric methods, and physiological recordings. This symposium aims at examining the most recent developments in the assessment of MI ability, which result both



in the validation of new qualitative instruments and an innovative method to measure MI quality. In a first talk, Guillot et al. review the importance of comparing MI and actual times and the influence of external factors altering MI time. They also propose an original statistical protocol allowing researchers to analyse and interpret MI times, whatever the duration of the movement. A second presentation by Williams et al. is designed to validate a new MI questionnaire (MIQ-3) assessing external visual imagery, internal visual imagery, and kinesthetic imagery abilities, using remodeled items. Cumming and Williams then confront the MIQ-3 with another psychometrically valid and reliable measure of MI ability (VMIQ-2), and demonstrate the complementarity of these instruments which measure distinct subtypes of MI ability. McIntyre et al. also present the development of a new measure of meta-imagery exploring knowledge, monitoring and control of imagery use. Finally, Guillot et al. propose a new procedure for the measurement of MI ability, and demonstrate how combining adequately all existing measures to provide an aggregate index of MI quality.

Manipulating motor imagery speed: recent findings and future directions.

Aymeric Guillot (CRIS, Université Claude Bernard Lyon I, France)
Magali Louis (CRIS, Université Claude Bernard Lyon I, France)
Stéphane Champely (CRIS, Université Claude Bernard Lyon I, France)
Christian Collet (CRIS, Université Claude Bernard Lyon I, France)

Motor imagery (MI) is a mental process by which an individual simulates an action without overt motor execution. Among the prerequisites that are important in developing MI training programs, the timing of imagined movements has received a growing body of attention since the last two decades. Nowadays, researchers frequently measure the temporal congruence between actual and imagined times, and the difficulty to preserve the temporal features of the movement during MI has been taken as imagery impairment. Interestingly, some researchers provided evidence that real-time imagery is not the only way to improve performance, while others demonstrated that voluntarily changing the timing of MI can alter the subsequent actual speed. Basically, the interest of researchers on MI speed manipulation has been a recent development, though a handful of experimental studies have now examined the similarities and differences between actual and MI times. The importance and the ability to imagine in real-time, as well as all factors that may lead athletes to under- or overestimate the actual time during MI will therefore be first discussed. Recent experimental data suggesting that MI time is altered by individual strategies, motor skill features or participants' functional state (i.e., aroused vs. relaxed condition) will then be considered. Finally, we will describe how favoring the correct timing of imagined movements, and propose a new standardised statistical protocol allowing researchers to compare the ability to imagine the movement in real time, whatever its duration.

Validation of the Movement Imagery Questionnaire-3.

Sarah E. Williams (University of Birmingham, UK)
Jennifer Cumming (University of Birmingham, UK)
Nikos Ntoumanis (University of Birmingham, UK)
Sanna M. Nordin-Bates (Trinity Laban Conservatoire of Music and Dance, UK)
Richard Ramsey (Université Catholique de Louvain, Belgium)
Craig R. Hall (The University of Western Ontario, Canada)

Movement imagery ability is frequently assessed by the revised version of the Movement Imagery Questionnaire (MIQ-R; Hall & Martin, 1997). However, a limitation of the MIQ-R is that it fails to separately assess the two visual imagery perspectives, external visual imagery (EVI) and internal visual imagery (IVI). Roberts, Callow, Hardy, Markland, and Bringer (2008) argue that it is important to assess both EVI and IVI, along with kinesthetic imagery (KI) in order to provide a more comprehensive measure of movement imagery ability. The purpose of this research was to validate an extended MIQ-R (termed the Movement Imagery Questionnaire-3 or MIQ-3) to assess ease of imaging EVI, IVI, and KI with 370 healthy participants (male = 185, female = 185; Mage = 20.29 years, SD = 2.25). Multi-trait multi-method confirmatory factor analyses were used to test four models (see Marsh, 1996). Results revealed that a correlated-traits correlated-uniqueness (CTCU) model provided the best fit to the data, $\chi^2(39) = 75.12$, $p < .05$, CFI = .98, TLI = .97, SRMR = .04, RMSEA = .05 (90% CI = 0.03 - 0.07). This factor structure displayed gender invariance and latent mean scores did not differ between males and females ($p > .05$). The CTCU model highlights the method effects that occur by assessing each type of imagery ability using the same four movements (knee lift, jump, arm movement, and waist



bend). Moreover, comparisons to alternate models support the 3-factor structure of the MIQ-3 as an assessment of EVI, IVI, and KI ability.

Recent developments in the measurement of movement imagery ability.

Jennifer Cumming (University of Birmingham, UK)
Sarah E. Williams (University of Birmingham, UK).

Imagery ability is commonly assessed in movement domains through self-report questionnaires - a method favoured by researchers because of its simplicity, time-effectiveness, and feasibility for use with either individuals or groups. Participants' scores determine their proficiency in generating images prior to involvement in research, as well as to examine pre- to post- changes following an intervention. This has led to improved understanding of the variability in imagery ability across individuals and that it can be modified with training (for a review, see Cumming & Williams, in press). Recently, developments in how movement imagery ability is measured have been motivated by the need to more clearly distinguish between imagery agency, modality, and perspective, resulting in the Movement Imagery Questionnaire-3 (MIQ-3; Williams, Edwards, & Cumming, in press) and the Vividness of Movement Imagery Questionnaire -2 (VMIQ-2; Roberts, Callow, Hardy, Markland, & Bringer, 2008). The MIQ-3 and VMIQ-2 are psychometrically valid, and reliably measure the ability to generate movements of the self in visual and kinesthetic modalities and from both internal and external visual perspectives. The aim of this presentation is to compare and contrast these instruments and provide guidance to researchers of the appropriate use of each. 168 participants (males = 75, females = 93, M age = 19.76, SD = 1.85) completed the MIQ-3 and VMIQ-2. Significant correlations ($p < .01$) between both measures ranged from .21 to .67. These small-to-moderate sized relationships between the MIQ-3 and VMIQ-2 indicate that these instruments measure similar but distinct subtypes of movement imagery ability.

When knowledge is power (thinking about imagery): the need for a Test of Meta-Imagery.

T. MacIntyre (University of Ulster, UK)
A. P. Moran (University College Dublin, Ireland)
C. R. Mahoney (Higher Education Academy, UK)
M. Campbell (University of Limerick, Ireland)

Metacognition, or thinking about thinking, has been described by Robert Sternberg (1999) as one of the key components of intelligence. Defined as how people's knowledge of their own cognitive abilities affects the way they prepare for and perform intellectual tasks (Nelson, 1996), it has been a source of interest to cognitive scientists for three decades (Flavell, 1979). Meta-imagery, which refers to 'people's knowledge about, and control over, their own mental imagery processes' (Moran, 2011), has recently been explored to discover if top athletes have greater insight into, or control over, their imagery processes when compared with novices. Qualitative approaches have been applied to ascertain if elite athletes understand common motor imagery effects (mental practice and mental travel) and the preliminary findings suggest that meta-imagery is an important factor in the efficient application of imagery processes (MacIntyre & Moran, 2010). These findings were not entirely unexpected as expertise theory suggests that knowledge is a key attribute of experts and moreover, that it takes expertise to make expertise (Ericsson, 2009). Early attempts using a survey instrument to measure meta-imagery were precipitated by the need to assess participants' tacit knowledge of imagery processes (Denis & Carfantan, 1985). The development of a new measure of meta-imagery is outlined which explored three aspects of meta-imagery: knowledge, monitoring and control. Items on non-visual aspects of imagery, including motor imagery effects, are included in the Meta-Imagery Test for Sport. A valid and reliable test of meta-imagery may have implications for sport psychology practitioners and researchers alike.



Measuring motor imagery: an aggregate index of motor imagery quality.

Aymeric Guillot (CRIS, Université Claude Bernard Lyon I, France)
Christian Collet (CRIS, Université Claude Bernard Lyon I, France)
Florent Lebon (Centre for Brain Research, University of Auckland, New Zealand)
Tadhg MacIntyre (University of Ulster, UK)
Aidan Moran (University College Dublin, Ireland)

For over a century, researchers addressed the question of how individual differences in motor imagery (MI) dimensions such as vividness and controllability, as well as the ability to imagine in real-time, can be assessed. Considering that MI is a multi-dimensional construct, we, and other researchers, have measured its underlying processes using a combination of psychometric tests, qualitative procedures, chronometric methods in which MI processes are investigated by comparing the duration required to execute real and imagined actions, and psycho-physiological techniques. Although these approaches have each yielded some interesting results, they have not yet been combined adequately to provide an aggregate index of MI quality. Therefore, the purpose of this paper is to propose a rationale for our novel hypothesis that it is possible to calculate an index of MI quality by quantitatively combining these measures. Practically, the MI index is calculated from six specific components that are themselves derived from self-estimation of imagery quality, psychometric assessment of imagery vividness, mental chronometry, and from three psycho-physiological concomitants of MI (based on electrodermal and cardiac activities). Our MI index must be seen as a flexible

Research methodology and assessment: sport psychology.

Organizer: Felix Guillen (University of Las Palmas de Gran Canaria, Spain)
Discussant: Carme Viladrich (Autonomous University of Barcelona, Spain) & Isabel Balaguer (University of Valencia, Spain)

This symposium aims at presenting the validation of several instruments that have been translated into different European languages, particularly Spanish, Portuguese and Flemish. The authors analyze the psychometric properties of different questionnaires for various fields of Exercise and Sport Psychology. The results in the different geographical contexts are also discussed.

Psychometric properties of the Spanish version of inventory of sources of stress in referees.

Felix Guillen (University of Las Palmas de Gran Canaria, Spain)
Carmen Rosa Sánchez (University of La Laguna, Spain)

The objective of this study was to examine the factorial validity and reliability of the Basketball Official's Sources of Stress Inventory (BOSSI) with 249 referee's Spanish basketball. Exploratory and confirmatory factor analysis was utilized to address this question. Results of the exploratory factor analysis revealed the presence of five factors and were consistent with previous research. Confirmatory factor analysis indicated that the Spanish version of the BOSSI had fit indices that were similar to the original Greek and English versions of the instruments and that a five-factor correlated model was more parsimonious than a hierarchical model. The implications of these findings on future research are discussed.

Psychometric proprieties of the MCSYS, AGSYS and SAS-2: preliminary validation into Portuguese.

Catarina Sousa (Autonomous University of Barcelona, Spain)
Margarida Gomes (Lusófona University of Humanities and Technologies, Portugal)
Miquel Torregrosa (Autonomous University of Barcelona, Spain)
Carme Viladrich (Autonomous University of Barcelona, Spain)
Jaume Cruz (Autonomous University of Barcelona, Spain)

Promote an appropriate social and psychological environment in youth sport is important to child development and to support life skills acquisition process. Smith and his colleagues (2006, 2008) have been developed measures adapted to young athletes, that cognitive and emotionally respond differently from adults.



Three questionnaires were recently developed and adapted to be applied with youth athletes: Motivational Climate Scale for Youth Sports (MCSYS); Achievement Goal Scale for Youth Sports (AGSYS) and Sport Anxiety Scale (SAS). The purpose of this work was: a) analyze the psychometric properties of Portuguese version of the three instruments mentioned and b) analyze factors correlations. A total of 161 young athletes (102 male and 59 female) participating in a competitive level and from different sports, ranging in age from 7 to 15 years ($M = 11,47$; $SD = 2,03$) took part in this study. Adaptation procedure followed the International Test Commission guidelines. Confirmatory Factor Analysis replicated the original MCSYS, AGSYS and SAS-2 factor structure: Mastery climate and ego climate factors for MCSYS, three factors for SAS (somatic anxiety, worry and concentration disruption) and task and ego oriented for AGSYS were obtained. Acceptable internal consistency was demonstrated for each subscale. Correlations showed that concentration disruption correlates negatively and significantly with Mastery Climate ($r = -.24$) and positively and significantly with Ego Climate ($r = .23$). These instruments appear to be valid and reliable measures for Portuguese young athletes. Further studies in different sports and competitive levels are needed to continue its Portuguese validation. This work has been funded partly by the project DEP2010-15561 of the National Plan I+D.

Validation of the Parental Involvement in Sport Questionnaire in Spanish Population.

Tomas Garcia (University of Extremadura, Spain)
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The impact of parental influence on their child's sport and sport career development has been documented by a number of researchers. Parents are the primary socializing for getting their children involved, often teaching the first steps referring to sport skills, and many young elite athletes emphasize the supportive influence of their parents during their career. Nevertheless, their influence can be not only positive but also negative (Holt, Tamminen, Black, Mandingo, and Fox, 2009). Parental involvement can help creating a positive motivational climate, if they support their children or negative if they pressure their children and are sources of anxiety. Thus, the main aim of this work is to validate the Parental Involvement in Sport Questionnaire (Lee and McLennan, 1997) in Spanish population. Previously, Torregrosa, et al. (2007) have used this questionnaire in football players from Spain. We use a sample of 958 athletes, ranging in age from 11 to 16 years old, belonged to football, basketball, handball and volleyball from the Region of Extremadura (Spain). Participants responded to 20-items questionnaire that taps perceptions of Directive Behavior (5 items), Active Involvement (5 items), Praise and understanding (5 items) and Pressure (5 items), ranging from 1 (strongly disagree) to 5 (totally agree). Regarding internal consistency, we obtained Cronbach's alpha coefficient of .859 in directive behavior; .681 in active involvement, .771 in praise and understanding, and .794 in pressure. Finally, we discussed the results with the aim to enhance the knowledge respecting to parental involvement in the sport domain.

Psychometric properties of the Flemish version of the Sport Anxiety Scale-2.

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Aphne Dedeken (Flemish Federation of Sport Psychology, Belgium)
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Dirk Van Damme (Flemish Federation of Sport Psychology, Belgium)

The Sport Anxiety Scale-2 (SAS-2; Smith, Smoll, Cummings, & Grossbard, 2006) has been developed to understand competitive anxiety (Worry, Somatic, and Concentration Disruption) in young athletes. In Europe, there is a growing need to investigate and screen talented young athletes and to use appropriate measures. The aim of this study is to have a valid and reliable instrument for competitive anxiety that is appropriate in the Dutch speaking region of Flanders. A translation of the SAS-2 was completed by 250 Flemish competitive youth athletes with a mean age of 12 years, from diverse types of sport (sailing, surfing, track and field, gymnastics, fencing, bowling, soccer, basketball, and dancing) and levels in competitive experience (Regional, National, International). Furthermore, this group also completed the Hierarchic Personality Inventory for Children (HiPIC; Mervielde & de Fruyt, 1999) and the Dutch version of the State and Trait Anxiety Inventory for Children (ZBV-K; Bakker, van Wieringen, van der Ploeg & Spielberger, 2004) to examine construct validity. Both exploratory and confirmatory factor analysis have been conducted showing the three factors as suggested by Smith and colleagues (2006). Cronbach Alpha coefficients for the three factors show good



reliability. Significant differences were found between age groups, suggesting that Worry increases and Concentration Disruption decreases with age. Correlations between the three factors for SAS-2 and scales for HiPIC and ZBV-K were calculated. Several significant correlations were found such as those between all three scales of the SAS-2 with Anxiety trait, Self Confidence, Emotional Stability, Irritability, and Concentration.

Unidimensional measure of vitality in sport, the Subjective Vitality Scale: Invariance over gender and time.

Isabel Castillo (Universitat de València, Spain)
Isabel Balaguer (Universitat de València, Spain)
Inés Tomás (Universitat de València, Spain)
Marisa García-Merita (Universitat de València, Spain)

Subjective vitality was defined by Ryan and Frederick (1997) as one's conscious experience of possessing energy and aliveness. The authors designed a measure (Subjective Vitality Scale, SVS) of this construct, a seven-item scale. In previous research, this scale has been found to be valid and reliable (Bostic, Rubio, & Hood, 2000; Ryan & Frederick, 1997). The SVS was adapted to the sport domain (e.g., Reinboth, Duda & Ntoumanis, 2004) tapping the degree to which participants feel physically and mentally vigorous and alert while participating in their sport.

The purpose of this paper was to examine the factorial validity and factorial invariance of the Spanish version of the SVS across gender and time, using LISREL 8.80. To achieve this, two studies were carried out. To examine factorial invariance across gender, participants were 184 adolescent players (92 female tennis players and 92 male soccer players) ranging in age from 10 to 14 involved in a competition level (regional and national). To analyze factorial invariance across time, participants were 130 adolescent engaged in an individual or team sport (65 boys and 65 girls) from ages 11 to 15 at baseline, who completed the questionnaire across three data collections over the course of three years. Prior to any invariance analysis, one-factor was applied to each group. The confirmatory factor analysis results revealed that one-factor model was acceptable for each group. Further, results from multi-sample analysis support the replicability of SVS factor structure across time and its generality across responses by males and females players, indicating that the scale has good construct validity. This Research was funded by Ministerio de Ciencia e Innovación (DEP2009-12748) Spain.

Measuring amotivation in physical education: preliminary validation of the Amotivation Inventory-Physical Education (AI-PE) in a sample of Spanish students.

Eduardo Cervello (University Miguel Hernández of Elche, Spain)
David Gonzalez-Cutre (University Miguel Hernández of Elche, Spain)
Carlos Montero (University Miguel Hernández of Elche, Spain)
C. Juan (University Miguel Hernández of Elche, Spain)
A. Lopez (University Miguel Hernández of Elche, Spain)
Juan A. Moreno (University Miguel Hernández of Elche, Spain)

Since the Shen' et al. (2010), AI-PE had not been validated to the Spanish context, the aim of this study was to analyze the psychometric properties of these scale using confirmatory factor analysis and reliability through Cronbach's alpha. Results confirmed that the reasons why students are not motivated in physical education can be grouped into four dimensions: ability beliefs, effort beliefs, characteristics of the task and value placed on the task, showing appropriate validity and reliability. The concurrent validity was evaluated analyzing the relationships between amotivation, ability beliefs and perceived competence, in a sample of adolescent students in physical education in some Spanish cities. The results of structural equation model, indicated that the incremental ability belief in sports positively predicted perceived competence and this, in turn, negatively predicted the amotivation, indicating concurrent validity of the instrument.

The Relationship between physical activity and cognition in older adults.

Organizer: Claudia Voelcker-Rehage (Jacobs University Bremen, JCLL, Germany)
Discussant: Dorothee Alfermann (University Leipzig, Department of Sport Psychology, Germany)

Aging is associated with declines in cognitive performance. The beneficial effects of regular physical activity on



the cognitive functioning have been increasingly investigated during the last years. Overall research has shown that physical activity has the potential to enhance cognitive functioning in old age. However, studies that compared effects of different types of exercise interventions are rare. Furthermore, it has not yet been fully understood, which mechanisms are responsible for the beneficial effects of physical activity on cognitive functioning and what are the mediating factors. In the symposium new results of different intervention studies with healthy older adults and older adults with MCI will be presented. Maaike Angevaren will critically discuss the "cardiovascular fitness hypothesis". Cathleen Illig and Nadja Schott will present results on effects of different types of exercise on cognitive functioning in healthy older adults and José M. Cancela Carral will investigate the effects of cardiovascular training on older adults with mild cognitive impairment. Psychological and physiological mediators on the relationship between physical activity and cognition will be analyzed by Katja Linde. Finally, Claudia Voelcker-Rehage will investigate the influence of genetic predispositions on the association between physical and motor fitness and cognitive performance.

Effects of different exercise interventions on cognitive functioning in older adults.

Cathleen Illig (University of Leipzig, Germany)

Introduction:

In a meta-analysis of RCT-studies, Colcombe and Kramer (2003) are able to show that aerobic exercise and resistance training have moderate effects on cognitive functions. Angevaren et al. (2008) support the evidence for effects of aerobic training and Liu-Ambrose and Donaldson (2009) also find positive effects of resistance training. Colcombe and Kramer (2003) also find that combined aerobic and resistance training is the most effective one. Actually it is unclear which kind of exercise is the most effective one. This study compares the effects of a resistance training (EGr) and a combined aerobic and resistance training (EGc) against a gymnastic control group (CG) on the cognitive functioning of older adults.

Method:

In a randomized controlled trial 3 points of measurement were conducted: one directly before and one at the end of the intervention and a 3month follow-up. The sample consisted of healthy adults 60+. At T1 N=85 participants could be tested (M=67.13, SD=3.94, Range 60-78, 49,4% male). At t2 61 participants and at t3 41 participants could be tested again. To measure cognitive functions different standardized tests were used. Using mixed between-within subjects ANOVAs the effects of the interventions have been analyzed.

Results:

Results show that there were no effects of the interventions on the cognitive functions in older adults.

Discussion:

Possibly the effects of the interventions are so small that the differences could not be shown in comparison with the active control group.

Between physical activity and cognition: the role of physiological and psychological mediators.

Katja Linde (University of Leipzig, Germany)

Recent research has shown that physical activity enhances cognitive functioning in old age. However, it has not yet been fully understood which mechanisms are responsible. The objective of this study was to examine the role of cardiovascular fitness, strength, blood pressure and depression as mediators between physical activity and fluid cognitive abilities on the basis of structural equation modelling. N = 208 participants (83 males, 60 to 80 years) were tested with a cross sectional design. As expected higher levels of physical activity were related to higher levels of cardiovascular fitness and strength as well as lower levels of depression. No relation was found for blood pressure. Higher levels of cardiovascular fitness were in turn related to higher performance levels of processing speed, reasoning and spatial relations. Higher levels of strength were in turn related to higher levels of processing speed, reasoning and spatial relations and in addition to memory performance. No significant relations between depression and cognitive performance could be found. There was only a marginal negative relation with respect to reasoning and spatial relations. Higher levels of blood pressure were related to lower levels of reasoning and spatial. In summary, only cardiovascular fitness and strength were connected to physical activity alongside cognition. Consistent with the literature indicators of physical fitness seem to play a major role as mediators between physical activity and cognitive functioning in old age.



Intervention studies should be used to verify these results.

Influence of COMT genotype on the relationship between physical fitness and cognitive functioning.

Claudia Voelcker-Rehage (Jacobs University Bremen, Germany)

It has been shown that fitness is positively related to cognitive functioning in older adults. This is true for physical and motor fitness. Besides this, it is well known that genetic predispositions might influence cognitive performance, particularly in older adults. One candidate gene related to dopamine metabolism and executive functioning is the COMT gene with met/met carriers outperforming val/val carriers in cognitive task. The aim of this study was to analyse the effect of COMT genotype on the relationship between fitness and cognition. We assume that due to the beneficial effect of exercise on dopamine production val/val carriers would show a stronger relationship between fitness and cognition.

Sixty-eight healthy older adults between 62 and 79 years of age ($M = 68.81$ years, $SD = 3.61$, 48 female) were analyzed in this study. DNA was extracted from capillary blood samples and defragmented and analyzed in the laboratory. We used a modified version of the Flanker Task as indicator for executive control and a battery of motor tests as indicator for motor and physical fitness.

Hierarchical regression analyses revealed a positive influence of motor fitness and of the interaction between motor fitness and COMT genotype on accuracy in the Flanker task. This relationship was particularly strong for the val/val carriers. Same was true for motor fitness.

Thus, exercise might particularly help val/val carriers to improve their cognitive functioning.

Motor control and learning of upper limb movements.

Organizer: Charmayne Mary Lee Hughes (Bielefeld University, Germany)

Discussant: Nicole Grützmacher (Bielefeld University, Germany)

The control of upper limb movements is an important factor in all facets of human life, from everyday tasks to highly specific sports actions. In this symposium, we discuss how upper limb movements are learned and controlled in a variety of contexts, including intramanual transfer and object manipulation, single versus multiple practice sessions, and the control of bimanual movements. With regards to human motor learning, we hope to show that motor skill representations benefit from multiple training sessions, which are less susceptible to transfer, compared to single training sessions. Further, during tasks that require intermanual transfer, motor skill retention is enhanced when the tasks share the same motor coordinates (mirror task), compared to when the tasks have the same visual-spatial (non-mirror) coordinates. However, these movement representations are not limited to a single hemisphere. In the context of human motor control, we provide evidence that limitations in anticipatory bimanual motor planning during movements to different targets result from interference on a parameteric, rather than response selection level. Lastly, we demonstrate that anticipatory planning often observed in unimanual movements do not extend to sequential bimanual (intramanual) movements, as specific planning constraints are often planned with the final, rather than the initial movement limb. These findings provide insights into how the human upper limb control is achieved, and are of importance to both sports psychologists, as well as sport practitioners.

Effect of visual half-field presentation on movement representation.

Stefan Panzer (Muenster University, Germany)

Theoretical schemes propose that learning of a movement sequence involves both a fast developing visual-spatial code, and a slow developing component that is represented in motor coordinates. Additionally, several studies associate different movement representations with hemisphere specialization. Visual-spatial processes seem to be mediated by the right hemisphere, while the motor processes are assumed to be governed by the left hemisphere. Two experiments were conducted to test the relationship between movement representation and hemisphere specialization to optimize the pathways for developing movement representations. A paradigm was used, which states that unilateral presented visual stimuli are projected on the contra-lateral hemisphere. Participants were randomly assigned to one of four groups that differed in terms of the type of visual half-field presentation during acquisition (right visual half-field (RVF), left visual



half-field (LVF), or in central position (Both), and a control group). The task was to reproduce a 1.3 sec spatial-temporal pattern of elbow flexions and extensions. An inter-manual transfer paradigm with a retention test and two transfer tests was used; a mirror transfer test where the same pattern of muscle activation and limb joint angles was required and a non-mirror transfer test where the visual-spatial pattern of the sequence was reinstated on the transfer test. The results demonstrate that the different visual half-field presentations did not promote group specific patterns. This outcome supports the notion that processes that underlie the development of movement representations are not completely limited to one hemisphere. This finding is particularly interesting because it contradicts general findings concerning observational learning.

Practice makes transfer of motor skills imperfect.

Arnaud Boutin (Centre de Recherches sur la Cognition et l'Apprentissage, University Poitiers, France)

A. Badets (Centre de Recherches sur la Cognition et l'Apprentissage, Poitiers, France)

S. Panzer (Leibniz Research Centre for Working Environment and Human Factors, Dortmund, Germany)

Y. Blandin (Centre de Recherches sur la Cognition et l'Apprentissage, Poitiers, France)

Motor skill learning is mediated by distinct successive phases. A fast learning, within-session performance improvements phase, followed by a slow learning phase consisting of delayed (off-line), time-dependent performance improvements emerging after practice. The skill components, i.e., the intrinsic and extrinsic coordinate or coding systems, which developed during training and the off-line period could produce specific learning and transfer capacities. The intrinsic coordinates are represented in terms of an internal model of joint and musculoskeletal representations. This type of coding system is effector-dependent (i.e., without transfer capacity). Conversely, the extrinsic coordinates reflect the Cartesian coordinates of the task and body space. This type of coding system is effector-independent (i.e., transfer capacity). This study was designed to determine the coding systems underlying the acquisition and long-term representation of motor skills over practice. Results shown that the extrinsic component develops early and remains the dominant representation along practice while the intrinsic component requires time to be effective: a limited training session is effective for an off-line effector-independent representation based on extrinsic coordinates while a prolonged period of practice affords an off-line effector-dependent representation based on intrinsic coordinates. Interestingly, our findings also revealed that the parsing of training into multiple practice sessions provides participants with a stronger motor skill representation that is less susceptible to transfer compared with the outcome of a single training session. These findings yield theoretical and practical implications that are discussed in the context of recent motor skill learning models.

Getting a grasp on bimanual motor planning.

Charmayne Mary Lee Hughes (Bielefeld University, Germany)

According to the end-state comfort effect, people will tolerate initially uncomfortable postures if they afford comfortable postures at the end of the movement. Recently, studies have examined if the end-state comfort effect extends to bimanual movements. In these situations participants must weigh the desire to satisfy end-state comfort against the desire to grasp the objects using identical grips. In general, participants adopt initial grips that allow them to satisfy end-state comfort for both hands when the movement goals are identical. However, when the movement goals are different, neither constraint appears dominant. It is possible that this latter finding results from limitations in stimulus identification and the selection of appropriate responses. If this is the case, interference should be abolished when the targets are cued directly, and a clear constraint hierarchy should be apparent. In this study, kinematic and grasp behavior was examined during movements that required identical or different degrees of rotation, when the target orientations were displayed as symbolic codes, visual representations of the objects, or cued directly. There were two main findings: First, grip behavior was similar regardless of cueing method, indicating that interference observed during the production of bimanual movements does not extend to planning of initial grasp postures. Second, when the target orientations were displayed symbolically or directly cued, there was a number of participants who always grasped both objects with overhand grips. These results suggest that limitations in anticipatory motor planning during bimanually incongruent movements arise from interference in parameter specification, rather than response selection.

Motor planning during intrapersonal object manipulation tasks.



Nicole Grützmacher (Neurocognition and Action Research Group, Faculty of Psychology and Sport Sciences, Bielefeld University; Center of Excellence Cognitive Interaction Technology - CITEC, Germany)

Charmayne Hughes (Neurocognition and Action Research Group, Faculty of Psychology and Sport Sciences, Bielefeld University; Research Institute for Cognition and Robotics - CoR-Lab; Center of Excellence Cognitive Interaction Technology - CITEC, Germany)

Thomas Schack (Neurocognition and Action Research Group, Faculty of Psychology and Sport Sciences, Bielefeld University; Research Institute for Cognition and Robotics - CoR-Lab; Center of Excellence Cognitive Interaction Technology - CITEC, Germany)

How people plan their movements has been a central line of research in motor control. Although, various studies have examined motor planning during unimanual, and bimanual movement tasks, there has been little research into how participants plan their movements during intra-manual object manipulation tasks. Thus, the purpose of the current study was to examine motor planning in an intra-manual grasping and placing task in which participants grasped an object from a start position with one hand, placed it on a middle shelf, and then grasped the object with the other hand, and placed it to a pre-specified end position. In this task, we specifically manipulated height congruency (initial and final shelf heights were either the same or different), movement direction (placing the object from left to right, or vice versa), and object rotation (transport the object with or without rotation). The questions of primary interest were 1) whether participants would plan their movements to avoid uncomfortable end postures (end-state comfort), 2) whether they would rotate the object with the initial grasping hand or the final grasping hand, and 3) whether they would place the object to the final shelf height with the initial or final grasping hand. The results demonstrated that participants overwhelmingly adopted grips that satisfied end state comfort. In addition, both rotation and height were planned with the final grasping hand, regardless of movement direction and initial and final shelf heights, suggesting that planning for such constraints does not extend to the initial grasping limb.



Influences on decision making in the penalty kick.

Organizer: Geert J.P Savelsbergh (MOVE Institute, Faculty of Human Movement Sciences, Netherlands)

Discussant: Duarte Araújo (Technical University of Lisbon, Portugal)

Recently decision-making behavior in a penalty kick has gained an increasing significance in this literature with respect to sport science and motor control. Possible reasons for the rise in interest are; first the penalty kick is a very important and decisive moment in a game; secondly, the task is a relative 'isolated' situation, which can be studied experimentally in the laboratory as well in the practical setting. In addition, and perhaps more important, in the last decade, the penalty has become a testing ground for new theoretical insight in the visual regulation of movement, the effects of stress and cognitive factors on movement and cognitive aspect, such as the use of different strategies. The current symposium addresses several of these aspects with the penalty as the central vehicle for understanding and obtaining new insights.

Decision making in the penalty kick in football.

D.Araújo (Faculty of Human Kinetics, Technical University of Lisbon, Portugal)

Decision-making behavior in a penalty kick (PK) is emergent from the dynamical interactions of kickers (KCs) and goalkeepers (GKs), toward specific goals, influenced by environmental and individual constraints (Araújo et al., 2006). In a PK, movement kinematics from a KC may contain informational sources that can be used for GK's action. The aim of this study was to describe how players' strategies in the PK influence not only its final outcome but mostly its evolving process.

We manipulated GK (e.g., mobility) and KC's (e.g., independence of the GK) strategies in the PK and then 60 KCs and 12 GKs scored 480 penalty kicks in total, with players crossing-over between all 6 strategies. The evolving process of the PKs was analyzed by means of dynamic variables (i.e., measured through performance): Players' speeds and accelerations, angle GK/goal line, angle KC/ball, distance KC/GK and KC/ball. These variables captured how performers followed goal paths, guided by contextual informational sources.

Results showed that different strategies lead to significant differences in dynamic variables angle GK/goal line and GKs' speed. Differences were also found for distance KC/GK in some of the strategies used by the players. These results showed, in fact, that interactions between system components (e.g. KC/GK distance evolution or GK's speed along action) enables the existence of several solutions for a particular (i.e., specifically constrained) task (Lopes et al., 2008).

The role of motor and perceptual experience in the recognition of deception.

R.Canal-Bruland (MOVE Institute, Faculty of Human Movement Sciences, Netherlands)

Two not mutually exclusive explanations are debated to account for the superiority of experts over novices in the early recognition of deceptive actions: on the one hand, perceptual experience is believed to cause superior sensitivity, on the other hand, motor expertise is assumed to be a crucial factor. However, most empirical studies thus far have confounded motor and perceptual experience when examining their contributions to the recognition of deceptive and non-deceptive intentions from another person's movements. In the present experiment, we manipulated viewing perspective as an additional demarcation to examine the involvement of motor and perceptual experience in detecting deceptive intentions. Expert handball players, expert handball goalkeepers and a group of novices were asked to indicate whether a penalty-taker produced a true or a fake shot. The clips were shown from a front view (i.e., a goalkeeper's customary viewing perspective) and a (more neutral) side view, and ended one frame before the ball would be released from the hand. Results showed that expert players and goalkeepers outperformed novices in detecting deceptive intentions, but there were no differences between field players and goalkeepers. Recognition of deceptive actions was more accurate from the goalkeeper's front view than from a side view. We conclude that neither the degree of motor experience nor the degree of perceptual experience can, in themselves, account for explaining successful recognition of deceptive actions.

Examining individual differences in visual anticipation.



M. Dicks (MOVE Institute, Faculty of Human Movement Sciences, Netherlands)

Recent studies analysing variability in perceptual-motor behaviour have revealed important individual differences in coordination and perceptual learning within and between performers. In order to examine the implication of such findings in the field of visual anticipation, the present study measured the interindividual and intraindividual differences of association football goalkeepers gaze behaviours when facing penalty kicks. Five experienced goalkeepers gaze behaviours were measured using an eye movement registration system (MobileEye™, ASL, USA) across three experimental conditions (video joystick response, in situ simplified body movement, in situ interception response). Analyses focused on ten successful trials for each participant in each condition in order to investigate whether the individual goalkeepers exploited equivalent or different information sources when achieving the same successful performance outcomes in each condition. The goalkeepers were found to utilise different gaze behaviours that underpinned their successful performances under the respective task constraints. Moreover, intraindividual differences were revealed as goalkeepers demonstrated variable gaze behaviours including scan-paths and quiet eye durations on separate trials in each condition while achieving the same level of accuracy in saving the penalty kick. The findings indicate that investigating the individual differences in the visual regulation of goal directed behaviour offers a suitable research vehicle to further examine variability in human behaviour (see Withagen & Chemero, 2009).

Asymmetries in the off-centre effect in the penalty taking.

John Van der Kamp (MOVE Institute, Faculty of Human Movement Sciences, Netherlands)

Masters, van der Kamp and Jackson (2007) have recently demonstrated that a penalty taker is likely to be unaware that a goalkeeper is standing slightly off centre (i.e., approx. 6 to 9 cm), but nevertheless is more likely to direct the penalty kick to that side with greater space than to the other side. I present new evidence that indicate that the off-centre effect is asymmetrical: football players more frequently direct the ball to the side with more space when the goalkeepers stand to left of the centre of the goal than when they stand to the right of the centre of the goal. Two causes for this asymmetry are evaluated; pseudoneglect (i.e., tendency among observers to perceive the midpoint of a line slightly to the left of the actual midpoint) and preferred kicking direction. The findings from these two studies suggest that the latter might be the more likely candidate to induce the asymmetry in the off-centre effect. Implications for goalkeeper strategies are discussed

Stress and training effects in the point of no return of simulated penalty kicks

Martina Navarro (Institute of Biomedical Science, Universidade de São Paulo)

In a computer simulation of football penalty kick, the Point-of-No-Return (PNR, moment beyond which the probability of a kicker to respond to an early goalkeeper dive was <50%) was found about 250ms before kicker-ball contact. In penalty kicks, 20-35% of the shots are wasted. Failure rates are attributed to the stress despite coaches/players often report not practicing, however there is no information about the real contribution of stress. The objective was to investigate the effect of stress looking at the PNR and check whether training sessions could revert it. Sixteen volunteers were divided in two groups, training(n=9) and control(n=7). Both groups performed a pre and post simulation penalty kick on computer under no-stress and stress conditions, induced by an audience. The training group repeated the task without audience 3 times/week during 5 weeks between tests period. Cortisol levels and heart rate confirmed that the protocol promoted stress. PNR under stress conditions backed up (from 254 to 324ms before ball contact, $p < 0.05$) and performance saturated at 87% for both groups in the first attempt. After training sessions the training group improved performance under stress reaching 100% of success while the control group saturated at 88%. However, the PNR of the training group after training sessions remained affected by stress condition (334ms). The result found was remarkably close to failure rates in official games. The training was successful to revert the stress effect in accuracy performance, but not in the PNR, the time needed to alter movement still higher than no-stress condition.



On winning the 'lottery'! Developing perceived control in soccer penalty takers.

Mark R. Wilson (University of Exeter, UK)

Soccer penalty kicks are often referred to as a lottery with the outcome dependent on luck rather than the skill of the taker. In this study we attempted to explore what effect different types of practice had on the control beliefs of soccer penalty takers and how this perception of control affected their aiming behaviour. Twenty university soccer players were evenly split into a practice group (who practiced penalty kicks without instruction) and an instruction group (who followed a pre-performance routine). Each practiced the same number of penalty kicks over a four week training period and were then asked to partake in a live penalty shootout between each group. Results indicated that after the training period both groups significantly improved their perception of control, however under the pressure of the shootout the instruction group maintained perceived control whereas the practice group felt significantly less control. This disruption in perceived control was also reflected in disruptions in the QE period of the practice group, with these participants making shorter target-focused QE durations compared to the instruction group. This research shows that structured practice not only has proposed behavioural benefits, but also has benefits for psychological aspects important for penalty taking performance. It also highlights that the relationship between perceived control, anxiety and gaze behaviour needs to be better understood.

The European-centred PAPA (Promoting Adolescent Physical Activity) project: aims, initial findings and emerging measurement-related advancements

Organizer: Joan L. Duda (University of Birmingham, UK)

Discussant: Glyn C. Roberts (Norwegian School of Sport Sciences, Norway)

The symposium commences with an introduction to the ongoing EC funded PAPA project (www.projectpapa.org), centring on the further development, implementation, and evaluation of a theory-based coach education programme (Empowering Coaching™) in grassroots football within the UK, France, Greece, Norway and Spain. Integrating tenets of Achievement Goal frameworks and Self Determination Theory, this programme is designed to create a more empowering (and less disempowering) coach-created climate in the context of young people's sport engagement as a means to enhance their health, well-being and continued participation. Longitudinal data are presented supporting the relevance of more autonomy supportive/less controlling coaching behaviours to need satisfaction and higher self esteem and reduced burnout in young Spanish footballers. The 2nd presentation highlights preliminary UK findings on the development of a brief multi-dimensional measure of the perceived coach environment (i.e., its autonomy and socially supportive and task-involving versus controlling and ego-involving features). The 3rd presentation summarises research on the validation of an objective observational measure of these empowering and disempowering dimensions of the coach climate. The 4th presentation provides an update on the accelerometer validation work which lays the bases for objective field assessment of players' PA levels during training and matches as well as their leisure time PA patterns. The final presentation provides qualitative findings from UK pilot offerings of the Empowering Coaching™ workshop, shedding light on processes by which coaches attempt to implement the espoused principles in their coaching practices as well as identified barriers to applying such strategies.

Coach behaviours, basic psychological needs and well-being in youth athletes.

Isabel Balaguer (Universitat de València, Spain)

Priscila Fabra (Universitat de València, Spain)

Lorena González (Universitat de València, Spain)

Isabel Castillo (Universitat de València, Spain)

Joan L. Duda (University of Birmingham, UK)

Self-determination theory holds that when social contextual conditions are autonomy supportive, well-being will be promoted. By contrast, when the environment controlling, healthy psychological development will be forestalled (Ryan & Deci, 2000). It has been also postulated that when the three psychological needs - competence, autonomy, and relatedness - are satisfied, well-being will be enhanced and when those needs are thwarted, well-being will be diminished and ill-being likely to ensue. The purpose of this study was to examine the relationship between changes in perceptions of the coach style (Autonomy supportive and



Controlling) to changes in footballers' need satisfaction/need thwarting and indices of self-esteem/burnout over a football season. 597 male footballers ($M = 12.58 \pm 0.54$ years) completed a questionnaire package tapping the variables of interest at two time points of the season. Results revealed that changes in autonomy support to be a positive and significant predictor of changes in need satisfaction. Moreover, changes in coaching style (autonomy supportive and controlling) predicted (negatively and positively, respectively) changes in need thwarting. In turn, changes in need satisfaction emerged as a positive and significant predictor of changes in self-esteem and as negative and significant predictor of changes in burnout. Finally, changes in need thwarting positively and significantly predicted changes in burnout and negatively predicted change in players' self-esteem levels. Overall, results of this longitudinal study showed the importance of promoting autonomy supportive atmospheres with young footballers and avoiding controlling styles to facilitate young athletes' well-being and to prevent ill-being.

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Development of a measure of perceived empowering and disempowering coaching behaviours.

Paul Appleton (University of Birmingham, UK)

Nikos Ntoumanis (University of Birmingham, UK)

Eleanor Quested (University of Birmingham, UK)

Joan L. Duda (University of Birmingham, UK)

Achievement goal frameworks and Self Determination Theory look at separate but interrelated social environment dimensions that hold importance for motivational processes and quality of engagement. No sport measure exists which integrates these environmental dimension, thus tapping features of the coach-created climate that could be considered more empowering or disempowering for players. Given this void, 297 football and 81 hockey players (males = 227; females = 140) (m age = 12.6 years) completed 138 items capturing perceived task- and ego-involving motivational climates (Perceived Motivational Climate in Sport Questionnaire-2; Newton et al., 2000); autonomy supportive coaching (adapted version of the Health Care Climate Questionnaire; Williams et al., 1996); controlling coaching (Controlling Coach Behaviours Scale; Bartholomew et al., 2010); and socially supportive coaching (adapted version of the Social Support Questionnaire; Sarason et al., 1987). To reduce the number of items, we conducted separate CFAs on each questionnaire, removing items until good model fit was achieved. We then conducted a CFA on the task-involving, autonomy and social support items to produce a 3-factor 'empowering climate' structure. A CFA was also conducted on the ego-involving and controlling items to provide a clean 2-factor 'disempowering climate' structure. The final solution (32 items) of the five coaching climate dimensions produced an acceptable fit (BBNNFI = 0.95; CFI = 0.95; RMSEA = 0.03 (90% CI = 0.02 - 0.04); SRMR = 0.06). Internal reliability scores were above 0.78. The results from a second sample of young athletes, in which we will attempt to replicate this solution, will be presented.

Development of an observational instrument assessing the coach-created environment.

Damien Tessier (Université Joseph Fourier, France)

Yannis Tzioumakis (University of Thessaly, Greece)

Nathan Smith (University of Birmingham, UK)

Philippe Sarrazin (Université Joseph Fourier, France)

Nikolaos Digelidis (University of Thessaly, Greece)

Athanasios Papaionnou (University of Thessaly, Greece)

Eleanor Quested (University of Birmingham, UK)

Joan L. Duda (University of Birmingham, UK)

To date, the examination of the motivational climate is achieved mainly via self-report scales. Only a few studies have used observational methodologies. Moreover, this work has been primarily grounded in the definition of the motivational climate as assumed in Achievement goal frameworks. This presentation will explain the methodological approach adopted in the development and preliminary testing of an observation instrument designed to tap the empowering and disempowering dimensions of the coach-initiated climate. Aligned with the perspective adopted in PAPA, this multidimensional measure will target the features of the coach-created climate derived from an integration of AGT (e.g., the task-involving features) and Self Determination Theory (e.g., autonomy support, controlling behaviours, involvement). We first identified conceptual and methodological limitations of existing instruments. Three points were highlighted: (1) the



empowering and disempowering dimensions of the interpersonal style are independent and not opposite to each other; (2) ratings of these dimensions should take into account verbal and non verbal behaviours; (3) it is important to resolve concerns related to the standardization of coded behaviours. The second step was to list exhaustively, both from sport and educational contexts, the coach/teacher behaviours that could be considered empowering and disempowering. This task was completed via an extensive review of the AGT and SDT literature and resulted in the identification of more than 35 interpersonal behaviours. The last step was to pilot test the instrument, in Greece, France and the UK. The development of a valid and reliable multidimensional observational instrument will provide further insight into the effectiveness of interventions to improve the coaching climate.

Validation of Physical Activity (PA) measurement by accelerometry and self report.

Sally Fenton (University of Birmingham)
Aurelie Van Hoya (Université Joseph Fourier)
Chalarampos Krommidas (University of Thessaly)
Athanasios Papaionnou (University of Thessaly)
Jean-Philippe Heuzé (Université Joseph Fourier)
Timothy Barrett (University of Birmingham)
Joan L. Duda (University of Birmingham)

To ensure a sound evaluation of the effectiveness of the PAPA project to increase PA levels of players, two studies were conducted to choose the most accurate method of PA measurement in children. Both studies focused on the reliability and validity of accelerometers and self reports, which are the most common methods to assess PA (Rowlands, 2007). Study 1, which was conducted in France, involved 22 children aged 12 years. We tested the reported comfort and accuracy of the GT3X (GTIM update) and SP3 (Sensewear armband), which are small, light, valid and reliable accelerometers (Arvidsson et al, 2007; Rowlands, 2007) and PA was also assessed via two diaries and a 7-day recall questionnaire. Study 2 was conducted in UK and involved 35 children aged 10-16 years. The GT3X has been validated in the laboratory against the criterion standard of indirect calorimetry during a step test, and in the field over a 7 day period against the Actiheart Monitor (a combined heart rate monitor and accelerometer). Initial results revealed that the GT3X was found to be the most comfortable/less bothersome by the children and exhibited higher agreements in assessed PA intensities than the SP3. The recall questionnaire exhibited low validity, while results suggested that a diary measuring only the intensities of PA activities might be the most accurate self-report.

A qualitative evaluation of coaches' implementation of the Empowering Coaching approach.

Eleanor Quested (University of Birmingham, UK)
Paul Appleton (University of Birmingham, UK)
Joan L. Duda (University of Birmingham, UK)

The effectiveness of the Empowering Coaching™ programme as a means to promote more empowered involvement in youth sport is largely dependent upon the extent to which coaches can understand, integrate and effectively implement the central principles in their day to day coaching practice. In order to explore whether the pilot coach education workshop were effective in this regard, individual and focus group interviews were conducted with grassroots coaches involved. Specifically, grassroots coaches were invited to participate in the interviews approximately one month following their attendance at an Empowering Coaching™ workshop. In the semi-structured interviews, the coaches were encouraged to articulate their understanding of what it means to be an empowering coach. Pulling from the self-determination theory literature which points to the relevance of teacher/coach motivation as a contributing factor to the learner's degree of self-determined motivation (e.g., Reeve, 2004), initial questioning explored the extent to which the coaches felt that they had identified with the principles of Empowering Coaching™ and integrated the principles into their own coaching behaviour. Subsequently, the interview questioning explored how the coaches implemented the Empowering Coaching™ principles in their coaching practices as well as barriers to doing so. These data help to clarify the specific coaching behaviours and processes via which grassroots coaches are able to bring theory to life on the pitch. Findings have implications for the ongoing development of the Empowering Coaching™ programme as well as the larger field of research concerned with the application of theory-based interventions in real life settings.



Key welfare Issues in sport.

Organizer: Kim D. Dorsch (University of Regina, Canada)

Discussant: Kim D. Dorsch (University of Regina, Canada)

There is a large body of evidence which supports the range of physical, social, and psychological benefits which can be associated with participation in sport. However, recent years have witnessed a growing recognition that sport also has the potential to have a negative impact on these same outcomes. The present symposium focuses on four contemporary welfare issues in sport. Elaine Raakman (JustPlay Sport Services Inc., Canada) discusses the necessity of being able to monitor behaviour within a youth sport context from a human rights perspective. Daniel Rhind (Brunel University, United Kingdom) then reports findings from the first study of gambling amongst athletes in the United Kingdom. Kim Dorsch (University of Regina, Canada) will discuss how the behaviours of players, coaches, and spectators can impact the satisfaction of officials. Finally, Karin De Bruin (independent sport psychologist, Netherlands) discusses the role of sports psychologists in supporting athletes with eating disorders. As a whole, this symposium brings together leading researchers and practitioners to consider key welfare issues which will be of great interest to psychologists working in sport.

Human rights in youth sport: a new era of monitoring and protection.

Elaine Raakman (University of Regina, Canada)

Kim D. Dorsch (University of Regina, Canada)

Daniel Rhind (Brunel University, UK)

The United Nations recognizes sport as a tool to promote development and peace due to its particular ability to nurture ideals that encourage inclusiveness, citizenship, tolerance, non-violence, and equality. In a theoretical, ideal world, it may encompass all these benefits, but reality indicates otherwise. Current research suggests that youth sport programs in industrialized countries do not necessarily, or inherently, have positive psychosocial outcomes for participants (Bocock, 2002; Brackenridge, 2006; David, 2005; Guilianotti, 2006). What then leads us to believe that sport, as it is generally practiced, will in fact produce these outcomes as identified by the United Nations? If we are to ensure, to the highest degree possible, that youth sport programs benefit the psychosocial, as well as the physical development of children, certain fundamental elements of the youth sport environment must be further investigated and better understood. This study therefore examines recurrent themes identified as problem sources within the youth sports, and presents them in a framework of accountability based on human rights (as defined by the United Nations Convention on the Rights of the Child). These themes include: a lack of monitoring, the importance of identifying and defining abusive behaviour of key stakeholders (namely the coach), and finally, the lack of universal standards for behavioural conduct. By providing strategies to address monitoring, abusive behaviours, and human rights, youth sport administrators and governing bodies can not only protect children, but more confidently use sport as a tool for peace and development.

Do you want to bet? The prevalence of problem gambling amongst athletes in the United Kingdom

Daniel Rhind (Brunel University, UK)

Objective:

Recent high profile cases have emphasized key issues related to gambling in sport. Two specific concerns have been identified. The first relates to athletes becoming addicted to gambling. The second refers to fraudulent practices whereby athletes are involved in betting on events in which they are participating. The present research represents the first study of gambling amongst athletes in the United Kingdom.

Design and Method:

A representative sample of over 1000 athletes from a range of sports and competitive levels has been collected. Participants completed a questionnaire comprised of the Problem Gambling Severity Index as well as items related to demographic information and fraudulent practices.

Results:

Basic descriptive statistics will be computed to identify the prevalence of problematic and fraudulent gambling



behaviours. Hierarchical multiple regression analyses will also be conducted to highlight possible risk factors.

Conclusions:

The role of the sport psychologist in supporting athletes with gambling problems will be considered and recommendations will be made for key stakeholders and researchers.

Open your eyes ref! The influence of participant behaviour on officials' satisfaction.

Kim D. Dorsch (University of Regina, Canada)

Elaine Raakman (University of Regina, Canada)

Daniel Rhind (Brunel University, UK)

Without the official, organized sporting contests could not occur. Despite this critical role, the official has been largely overlooked in the sport psychology literature, particularly in aspects related to their satisfaction with sports. It is the purpose of this study to examine how the conduct of the various participants in the sporting context (i.e., coaches, players, and spectators) influences officials' satisfaction with the event. The Justplay Behaviour Management Program (JBMP) asks all game officials to provide a behavioural conduct rating of the home and away coach, players, and spectators on a scale of 1 Very Good to 5 Very Poor. At the same time, they provide a rating of their satisfaction with the game on a scale from 1 Very Good to 5 Very Poor. The data collection tool is known as a card. Data were collected by the JBMP from approximately 8000 games during one season in a large urban Canadian centre. This resulted in 16109 cards. Overall, officials were moderately satisfied with the games ($M = 2.33$, $SD = .76$). The six behavioural conduct ratings were then regressed on the satisfaction ratings using a stepwise linear regression. All six participant conduct ratings were influential in predicting official satisfaction, $F(6, 16102) = 18156.57$, $p < .000$, R^2 adjusted = .67. Beta weights ranged from .22 (home players) to .12 (home spectators). Discussion will revolve around implications for officiating training and the role sport psychology can play in this education.

Welfare of athletes with disordered eating. Food for thought.

Karin A. P. de Bruin (Private practice, Netherlands)

Eating disorders are known for their devastating physical and psychological impact and, therefore, may deeply affect the welfare of athletes. To deal with these issues more effectively, it is essential that sport psychologists ascertain how eating disorders manifest themselves (differently) in the population of elite athletes. Whereas common risk factors (e.g., negative body image, self-esteem) contribute to the development of dieting and weight control behaviors in the general population, in sports these disordered eating behaviors seem to be particularly related to factors concerning the sport-specific drive for performance enhancement. More specifically, the highlights of studies of De Bruin et al. (2007, 2008, 2009, 2010) into disordered eating in Dutch female and male athletes will illustrate the role of factors such as achievement motivation, athletic body image, weight-related beliefs of success and failure, perceived weight-related coach and peer pressure, and athletic identity in the development of disordered eating in athletes. As general diagnostic tools for eating disorders might not be sufficiently valid for identifying disordered eating in athletes, the surplus value of screening tools that include sport-specific variables should be investigated. Therefore, new psychometric research into sport-specific diagnostic tools will be discussed. We conclude this presentation with some ethical aspects of carrying out the profession of sport psychology related to balancing apparent clashing interests of performance enhancement versus athlete's welfare. How could sport psychologists take responsibility and contribute to the prevention of disordered eating in athletes, as prevention is better than cure.

Youth sports participation: what does really matter for them?

Organizer: Maria João Almeida (University of Madeira, Portugal)

The quality of the experiences in physical activity will influence the commitment and adherence to a lifetime of regular activity, as well as promoting motor competence, positive self-perceptions, and positive affects. Coaches, teachers, parents, and peers are some of the major influences that shape the experiences that young people have in physical activity and sport. Investigating the participation of young people in organized sport, physical education and other forms physical



activity is crucial to understanding the quality of youth physical activity experiences.

This symposium aims at providing a better understanding of young people's experiences and perceptions about their involvement in sport and physical education, as well as perceptions of social influences on those experiences.

Quality of sport experiences and persistence in youth sports and physical education.

Maria João Almeida (University of Madeira, Portugal)

Joana Osório (University of Minho, Portugal)

Ana Rodrigues (University of Madeira, Portugal)

Marlene Rodrigues (University of Madeira, Portugal)

Hélder Rodrigues (University of Madeira, Portugal)

Ana Marques (University of Madeira, Portugal)

Persistence in sporting activities is generally influenced by the quality of the experience. Perception of competence, enjoyment, sources of pressure and how the individual considers himself to be capable of dealing with them successfully are factors that contribute to the quality of sport experiences. The aim of this presentation is to explore the relationship between sources of pressure and stress, perceptions of competence, enjoyment, and sport achievements in sporting activities in young athletes, non-athletes and dropouts in Madeira Island. For this purpose, we applied an interview protocol to 306 individuals, 158 of whom practice some kind of competitive sport, 104 who have practiced a competitive sport but dropped out, and 44 who had never had that kind of participation. The interview elicited information about involvement in sports, sporting history, social factors that influenced engagement in sports, competence perception and social sources of pressure and stressors in sport experiences and enjoyment of those activities. We explore differences in terms of sport achievements, quantity of practice and also look into differences between athletes, non-athletes and dropouts. Preliminary qualitative and quantitative analyses suggest the important role of the quality of sports experience in the persistence in competitive activities and levels of achievement. This study gives an overall comprehension of how sources of pressure and social support affect perceptions of competence in young athletes and how these factors might be related to persistence and sustained motivation in the domain. Directions and suggestions for future research and practice will also be discussed and presented.

Do they really care? Parental involvement and support in youth sports and physical education.

Joana Osório (University of Minho, Portugal)

José F. Cruz (University of Minho, Portugal)

Ana Rodrigues (University of Madeira, Portugal)

Mário Botelho (University of Madeira, Portugal)

Maria João Almeida (University of Madeira, Portugal)

Parental involvement and support have proven to be crucial to the engagement in sports activities during the "sampling years" that lead to specialization and, eventually, to higher levels of performance in later years of development. In this presentation, we aim to explore the relationships between parental support and engagement in competitive sports activities and/or physical education, competence perceptions and social sources of pressure in youth population in Madeira Island. For this purpose, we applied an interview protocol to 306 individuals, 158 of whom practice some kind of competitive sport. All the individuals attend physical education classes at school. The interview elicited information about family structure, social factors that influence engagement in sports, parental support, competence perception and social sources of pressure and stressors in sport experiences. We explore differences in terms of age, gender and level of success. Additionally, we look into differences between athletes, non-athletes and dropouts. Preliminary qualitative and quantitative analyses suggest the important role of parents at different age levels and a differential pattern as a function of gender and level of success. This study is a departing point for a better comprehension of parental styles and practices in the psychosocial development of sports activities in children and youngsters. Directions and suggestions for future research and practice will also be discussed and presented, specifically for the crucial role of family structure and optimal learning environments in the development of performance.



Physical Education, which motivations and barriers? Perceptions in 5th to 12th grade students.

Dulce Marques (University of Madeira, Portugal)
Ana Rodrigues (University of Madeira, Portugal)
Ana Paula Pascoal (University of Madeira, Portugal)
António Pereira (University of Madeira, Portugal)
Bebiana Sabino (University of Madeira, Portugal)
Maria João Almeida (University of Madeira, Portugal)

This study aimed at investigating students' experiences and perceptions about Physical Education (PE) classes and examining the differences between gender and years of school.

The sample consisted of 790 adolescents of genders, aged between 10 and 18 years, attending 5th through 12th grades. The experiences and perceptions about PE were assessed by self-report. Of all sample, approximately 1 in 3 mentioned not having attended at least one PE class, citing as the main reasons, medical reasons and lack of equipment. The motivation questions showed high rates of agreement (between 53.3% and 87.9%), and aspects associated with feelings of fun, learning and well-being the most suitable, for all subjects. Barriers and feelings of frustration were mentioned by 16.5%.

A gender analysis showed significant differences ($p < .05$) for: a) number of classes attended, b) saying they like doing PE classes, c) motivational aspects; d) barriers to students' involvement in PE classes. For the first 3 items, on average, boys had higher scores. Moreover, girls reported more frequently that PE classes were boring, uninteresting and frustrating. An analysis by education level, showed that there were only differences in the motivation items ($p < .05$), which on average tended to decrease with increasing school level, with similar trends for liking PE.

This study showed that girls and students of higher grades had a more negative perception about PE.

Peer influence on sport participation by adolescents.

Diogo Neves (University of Madeira, Portugal)
Ana Rodrigues (University of Madeira, Portugal)
Carolina Hayes Miguel (University of Madeira, Portugal)
João Freitas (University of Madeira, Portugal)
Ana Paula Pascoal (University of Madeira, Portugal)
Maria João Almeida (University of Madeira, Portugal)

Relationships among peers are crucial elements of the sport experience in youth. Affiliation and social acceptance have been shown to be linked to sources of enjoyment and perceived competence.

The aim of the study was to determine the influence of peers' encouragement for participating in regular competitive sports.

Participants in this study were 1569 subjects of both genders, aged between 10 and 18 years, from Madeira Island. All participants were questioned about their involvement in organized sports and subsequently categorized into four groups: 1) subjects not involved in any extracurricular sporting activity, 2) subjects who had practiced sports in the past, but have dropped out, 3) Participants who had been participating in sports for up to 3 years, 4) Participants who had been practicing sports for over 3 years.

The encouragement from peers to participate and during sporting activities practice was assessed by self-report.

Significant differences were found in the perception of incentives among the four groups of sports participation, and the greater the involvement in sports, higher was the sense of encouraging for participation, particularly in males. Logistic regression showed that the subjects had a higher probability of participating in regularly in organized sporting activities when his friends complimented their performance during the activity (OR: 1.260, 95% CI 1.072 to 1.482).

This study showed that peers have an influence on sport participation, in particular when the incentives occur during the activity.



Why do adolescents drop out of sports? Psychosocial and demographic factors.

Ana Rodrigues (University of Madeira, Portugal)
Joana Martins (University of Madeira, Portugal)
André Jasmins (University of Madeira, Portugal)
Mário Botelho (University of Madeira, Portugal)
Graça Marlene Rodrigues (University of Madeira, Portugal)
Maria João Almeida (University of Madeira, Portugal)

Sports participation during adolescence is a complex phenomenon, and investigating associated psychosocial and demographic factors is crucial for understanding it. The purpose of this study was to examine the attitudes towards physical activity, according to sporting history and individual characteristics, as well as aspects that distinguish former athletes from athletes.

This study involved 1569 subjects of both genders, aged between 10 and 18 years, in 3 moderately urban counties of Madeira. All participants were assessed for sporting history and attitudes towards physical activity by self-report.

Overall, 81.4% had physical education as the only organized physical activity, 18.5% practiced a competitive sport and 8.4% was a former athlete. Analysis by group of sport involvement (athletes, former athletes and non-athletes), showed that practicing sports was associated with being male, and between 12 and 15 years-old. Among the three groups we found differences in the psychosocial variables, with athletes: a) having a better perception of their health status, b) enhancing the health-related benefits of exercise (being fit, improving health and fitness). However, when athletes were compared with former athletes, there were differences in psychosocial aspects associated with extrinsic factors (being good at playing, expectations of others, winning), with former-athletes giving more emphasis. Dropping out of a sports was associated with being female and older (15-18 years). Former-athletes also differed from athletes in their sporting history, with more involvement in individual sports and having practiced two or more sports.

Applied research in the psychology of refereeing.

Organizer: Mattia Piffaretti (AC&T Sport Consulting, Switzerland)

Discussant: Gustavo Korte (Universitat Autònoma de Barcelona; Federação Paulista de Futebol, Brazil)

The psychological challenges that referees have to go through in many sports domains are a well-documented phenomenon. In the last decade, sport psychology and more broadly sport science research has focused on identifying sources of stress, coping strategies, perceptual biases, decision-making processes, effects of crowd noise and the role of passion in this special athletic population. This symposium aims to illustrate current applied research projects that are endeavouring to deepen psychological knowledge while seeking practical implications for the development of psychological skills in sport officiating. The study by Brand et al. (2010) pursues the line of research about decisional processes in a population of basketball officials, by investigating the important issue of consistency. Korte (2010) focuses on the role of passion on achievement motivation in a population of Brazilian football referees. Piffaretti and Goulakos (2010) explore the dropout phenomenon in European regional referees, by highlighting the particular role of stress and coping resources. Finally, the study of Slack et al. (2010) aims to identify the factor of excellence in football refereeing performance in a sample of top select referees in the Premier League. The goal of this symposium is to trigger and continue reflecting about the possible practical implications of sport sciences in the enhancement the psychological training and follow-up of referees, from successful recruitment, through development of expertise, to long term commitment and achievement of top-class performance.

Enhancing adaptive conformity in elite basketball referees' decisions.

R. Brand (Universitaet Potsdam, Germany)
G. Schweizer (University Heidelberg, Germany)
H. Plessner (University Heidelberg, Germany)

Several studies in sport psychology suggest that referees conform to their fellow referees' judgments. Conformity, either for normative or informative reasons, is usually understood as an undesirable bias (Vanden Auweele, Boen, De Geest, & Feys, 2004). Contrarily, we propose a perspective towards conformity as an



advantageous phenomenon in environments of high uncertainty. Basketball referees must be able to adjust their interpretations of ambiguous incidents to the interpretations of their fellow referees to make their decisions predictable. From this perspective, the question is how can conformity be supported? The goal of the present study was to show that elite referees' perceptions of ambiguous situations can be influenced by feedback to prior decisions via a video-training tool.

In an online experiment, the total sample ($N = 33$) of Germany's first-league Basketball referees received faked feedback on the correctness of decisions they were asked to make on 15 video-taped ambiguous contact situations. In a yoked design, half the participants were told that 80% of incidents were to decide as foul and 20% as no foul and half the participants were told vice versa. As a result in the subsequent test phase, referees conformed to this feedback. Members of the 80%-foul-group made more than twice as many foul decisions than members of the 20%-foul-group (57% to 24%; $2[1, N = 33] = 36.16, p < .01, w^2 = 1.09$). Results suggest that conformity may be supported by online video-training programs.

Researching professional officials in Brazil: How passionate are they?

Gustavo Korte (Universitat Autònoma de Barcelona; Federação Paulista de Futebol, Brazil)

There are not many studies with professional soccer officials in Brazil and despite being the country of football, sport psychologists are not frequently found working with referees. Nevertheless the Referee Commissions are very conservative but the Sao Paulo State Soccer Federation (FPF) was the first federation in Brazil to hire a sport psychologist to work the whole season with their 600 referees. Integrating research and applied intervention on the field.

Besides being an elite athlete it is required specific mental training, decision making, emotional control, stress control among other skills it is a highly motivated person and can be considered passionate to everything related to refereeing (Philippe, F. Vallerand, R., Andrianarisoa, J., Brunel, P., 2009). Passion is defined as a strong inclination toward an activity that people like, that they find important and they invest time and energy (Vallerand, R., Blanchard, C., Mageau, G., Koestner, R., Ratelle, C., Léonard, M., Gagné, M., & Marsolais, J., 2003). The objective of this research was to identify if referees are passionate and differences within ranking, years of practice, level of study, type of work, social status and kids. From the 509 officials that started to answer the questionnaires over the internet, 489 completed all the questions. They are 488 Men and 21 Women aged from 19 to 45 years old ($M = 31,39$ and $SD = 3,88$). This study opens new perspectives to the usage of the internet and a strong emotion, such as the passion, evaluating how referees relate and are implicated to their activity.

Stress, coping strategies and dropout in European regional refereeing.

M. Piffaretti (UEFA, AC&T Sport Consulting, University of Geneva, ISMMS, Switzerland)

C. Goulakos (AC&T Sport Consulting, Switzerland)

While a number of studies have looked at the career of athletes and their transitions, why and how referees continue or stop their involvement is not yet clear. Recent studies in different sports explore the issue of stress in refereeing (Dorsch & Paskevic, 2007, Alonso-Arbiol et al., 2005), and the capacity to cope with it (Wolfson & Neave, 2007; Philippe et al., 2009). Furthermore, Rainey (1999) examined the influence of stress factors on basketball referees' intentions to terminate their careers. Brouwers, et al. (2000) found a relationship between burnout risk and stress-related factors. Given the current difficulties to limit referees' dropout at the regional level, some of which assumed to be stress-related, the UEFA supported a study, which also aimed to clarify the stress - dropout relationship. Through in-depth interviews that were constructed on the basis of theoretical models on stress-related dropout in the sports domain (Gould, 1993), 69 currently active (or once active) referees at the regional level all over Europe were involved in the study. The qualitative analysis of the results confirms that referees have to deal with many stressors, in particular the verbal and psychological challenges deriving from crowds, players and clubs, but also coming from the promotion system or the individuals themselves (e.g. dealing with bad personal performances). While both active referees and dropouts recognise similar stressors, referees who are still active seem to have higher solution-oriented approach coping style. This study opens new perspectives on the role of coping strategies on perseverance / dropout.

Factors underpinning elite sport officiating: Perceptions of English Premier League referees.



L. A. Slack (Sheffield Hallam University)
I. W. Maynard (Sheffield Hallam University)
J. Butt (Sheffield Hallam University)
P. Olusoga (Sheffield Hallam University)

It is widely recognised that to achieve performance excellence a multitude of factors are required for sport performers to reach the pinnacle of their sport (Gould & Maynard, 2009). To date, the majority of performance excellence research has focused on athletes, however, sporting officials are increasingly being thought of as performers too (Philippe et al., 2009). Despite the performance demands placed upon officials little is known of what constitutes excellence in sport officiating (Mascarenhas et al., 2005). The purpose of the study was to identify factors underpinning elite sport officiating. Specifically, from a professional panel of referees assigned to officiate English Premier League football matches (i.e., Select Group referees), 13 referees agreed to participate. The referees (11 active, 2 recently retired) were individually interviewed. Interviews were transcribed and content analysed by three researchers. Findings identified a series of factors underpinning officiating excellence. Emerging themes included: effective game management (e.g., credible positioning); multifaceted pre-match preparation (e.g., tactical preparation); support networks (e.g., social support); performance-level enhancement (e.g., performance-aided technology); physical components (e.g., demanding physical training programme); opportunities to thrive (e.g., extensive Football League level grounding); and; personable characteristics (e.g., humble). A key theme to emerge was mental toughness (e.g., resilience) indicating that referees perceived being mentally tough as a major factor required to perform their role in what they described as a "challenging working environment." Findings offer practical implications for the development of referees striving to be a professional football official as well as for sport psychology practitioners operating in this field.

Gender specific challenges in career transitions and development of elite athletes.

Organizer: Anke Reints (Vrije Universiteit Brussel, Belgium)
Discussant: Klaudia Zuskova (Pavol Jozef Safarik University in Kosice, Slovak Republic)

As the route to athletic success is different for male and female athletes, this symposium will focus on the gender specific challenges associated with performing at the elite level. The first presentation deals with gender differences in athletes' motivation to engage in or disengage from elite sport. The second presentation covers in detail reasons for career termination from both female as well as male athletes' perspectives. The aim of this study is to investigate gender-specific reasons for why elite athletes competing at the highest international level stop their careers. The third presentation will discuss the unique characteristics of male coach-female athlete relationships presenting both cases in applied sport psychology and research issues. This presentation, based on naturalistic experiences in applied sport psychology, invites to consider the gender dimension in future research on the coach-athlete relationship in elite sport. To end with, the fourth presentation deals with attitudes of female sport psychologists from academic and applied field in relation to their professional career. This new paradigm of gender and career development represents broader field of study not only in a framework of sport psychology scientific investigation, but also in practical application more specifically in sport preparation of the athletes.

Gender differences in athletes' motivation to (dis-)engage in elite sport.

Anke Reints (Vrije Universiteit Brussel, Belgium)
Paul Wylleman (Vrije Universiteit Brussel, Belgium)

In studying athletes' sport careers, the transition out of elite sport has received most of researchers' and sport psychologists' interest (Wylleman, Lavallee, & Alfermann, 1999). However, there is the need for collecting gender-specific information on athletic career transitions (e.g., Seiler, Anders, & Iringer, 1998). Therefore, the purpose of this study is to study gender differences in athletes' motivation to engage in or disengage from elite sport.

Using the Scanlan Collaborative Interview Method (SCIM), 24 former Flemish elite athletes (12 female, 12 male) were interviewed. NVivo 8 assisted in the inductive and deductive content analysis.



Results revealed that 66,7% of the male athletes mentioned lifestyle as a reason to continue with elite sport compared to 25% of the female participants. Female participants, on the other hand, mentioned friends in sport (33,3%) and a positive group atmosphere (41,6%) as factors responsible for commitment much more than their male counterparts (respectively 8,3% and 16,6%). For retirement, male athletes mentioned stress (male: 58,3% and female: 8,3%), a decrease in performance (male: 55% and female: 25%) and age (male: 66,7% and female: 33,3%) more than female participants. Female participants, on the other hand, mentioned wanting kids (83,3%) and a difficult combination job/elite sport (50%) more often than male participants (respectively 25% and 0%). The route to success and the decision to retire are different for male and female athletes. This study provided a strong understanding of the commitment and retirement decision process, recognizing gender-specific challenges.

Reasons for career termination of female Danish elite athletes.

Karin Moesch (University of Copenhagen, Denmark & Lund University, Sweden), Anne-Marie Elbe (University of Copenhagen, Denmark), Cecilie Mayer (University of Copenhagen, Denmark) & Johan Wikman (University of Copenhagen, Denmark)

In the past, career termination research has focused on many different aspects (e.g. cultural differences, transitional phases, adaptation processes, psychological problems, etc.). Research on gender differences of these aspects, however, is rather scarce. The aim of this study is to investigate gender-specific reasons for why elite athletes competing at the highest international level stop their careers. In one of the few existing studies on the topic Reints and Wylleman (2010) identified gender differences concerning career lengths as well as reasons for career termination. The purpose of this study is to analyze the lengths of the different career stages as well as career end of 32 female and 38 male Danish top-level athletes who all achieved either a medal at European level or placed among the top ten at world level. The data was collected in an online study in 2009. Results indicate that on average Danish female elite athletes end their career at the age of 28.5 years and that the three most frequent reasons for ending are injury (28%), starting a family (22%) and lack of motivation / achieved it all (17%). No gender differences appear concerning career length or length of the different career stages. However, females and males differ on reasons for career termination. These differences will be discussed on the basis of how to improve the situation of female athletes ending their career and how career support services could be better designed to match their needs.

Coach-athlete relationship in female elite sport: from cases in applied sport psychology to research.

Nadine Debois (National Institute of Sport, Expertise and Performance, France)

Applied sport psychology practice leads to store up a great number of experiential data likely to guide research issues in sport psychology. For instance, spontaneous verbalizations gathered in the course of regular consultations during which confidence between the athlete and the applied sport psychologist has firmed up may contribute to question about the characteristics of male coach - female athlete relationship in elite sport. Based on empirical data, elite female athletes talking about their feeling regarding the relationship or communication with their coach (i.e. male coach) express expectations such as equity in attention dedicated to each athlete, availability and affective support. They also express a need for clear explanations regarding the ins and outs of the training program, and a need for a listening attitude from the coach and a sharing of responsibility in training decisions for one part and in good as well as poor sports results for another part. Based on Wylleman's (2000) model, these empirical data emphasize a stronger link between social-emotional dimension and acceptance-rejection dimension of interpersonal relationships between female athletes and male coaches compared with empirical data gathered from male athletes. This report, based on naturalistic experiences in applied sport psychology, invites to consider the gender dimension in future research on the coach-athlete relationship in elite sport.

Career experiences of female sport psychologists.

Klaudia Zuskova (Pavol Jozef Safarik University in Kosice, Slovak Republic)
Tatjana Bugelova (University of Presov, Slovak Republic)

Our paper deals with attitudes of female sport psychologists from academic and applied field in relation to



their professional career. This new paradigm of gender and career development represents broader field of study not only in a framework of sport psychology scientific investigation, but also in practical application more specifically in sport preparation of the athletes. We can say that the career development and transition of female sport psychologists are at its beginning. Empirical evidence from above mentioned field of study in most part is coming from Western European and American studies. Beside, the question of culture and the system in which sport psychologist is working is crucial. Based on open-ended questionnaires sent individually by electronic mail to the respondents we obtained by the means of qualitative methods data of female sport psychologists from Slovakia, Czech Republic, Hungary, Slovenia, Poland, Bulgaria and Romania. The questions that we asked relates to their attitudes and experiences to following topics: entrance into sport psychology, women's status in sport psychology, gender aspects, gaining access, family and balance. The results of our investigation imply upon cultural as well as gender specificity in a sport psychology profession. At the end, we can conclude that effective and meaningful preparation of sport psychologists and their work in Europe need further research in above-mentioned domain.

Theoretical integration of self determination theory and the theory of planned behaviour in sport and exercise.

Organizer: Derwin K Chan (School of Psychology, University of Nottingham, UK) & Martin Hagger (School of Psychology and Speech Pathology, Curtin University, Australia)

Discussant: Nikos Ntoumanis (University of Birmingham, UK)

An immense amount of research including meta-analyses have tested self determination theory (SDT) and the theory of planned behaviour (TPB). Consistent findings regarding the substantial predictive power of these two theories on individuals' behaviours have led researchers to integrate their constructs and hypotheses into a unified model of motivation and intention in sport and exercise contexts.

Based on an organismic tradition, the aim of SDT is to explain how the environmental and dispositional factors influence the quality of human motivation, but the theory does not illustrate how motivational orientations are directed into intentions and behaviours. Originating from the social cognitive tradition, the TPB focuses on the processes by which individual's belief systems lead to the intention and implementation of behaviour, but the contextual and motivational antecedents of the beliefs are not well identified. Therefore, a theoretical integration might combine the strengths, and overcome the shortcomings, of these two prominent theories, which might aid the development of a comprehensive model of psychological processes of sport and exercise behaviours.

In the present symposium, a series of papers will be presented that examine such theoretical integration adopting a number of methods, including meta-analytic, randomized controlled trial, prospective intervention, and correlational designs. The research topics will cover not only sport, exercise and physical education, but also sport injury prevention, rehabilitation, and other health-enhancing behaviours. We opt to summarize the existing findings and offer future directions in this area of research.

A review and meta-analysis of the Transcontextual Model.

Martin S. Hagger (School of Psychology and Speech Pathology, Curtin University, Australia)

Nikos L. D. Chatzisarantis (National Institute of Education, Singapore)

Students' self-determined or autonomous motivation in educational contexts (e.g., physical education) is associated with adaptive educational and behavioural outcomes (e.g., health related physical activity). A key question for educators is whether promoting autonomous motivation toward activities in an educational context leads to increased autonomous motivation toward related activities in extramural contexts. In this article, we present a transcontextual model that demonstrates the processes by which autonomous motivation is transferred from educational to extramural contexts. Using an integrated, multi-theory approach including self-determination and planned behaviour theories, we propose a motivational sequence in which perceived support for autonomous motivation for a given activity leads to autonomous motivation in educational contexts but also to autonomous motivation toward activities in extramural contexts. Autonomous motivation toward the activity in extramural contexts is proposed to be associated with attitudes, perceived control, and intentions to perform the activity in future and actual behaviour. We will review recent prospective and intervention research that has applied the model to explain the transfer of autonomous motivation toward physical activity from a physical education context to a leisure-time physical



activity context. Further, we present results from a meta-analytic synthesis of empirical tests of the model. The applicability of the model as a basis for educational interventions to promote motivational transfer from physical education to extramural leisure-time physical activity is discussed.

Effects of an intervention based on Trans-Contextual Model on leisure-time physical activity participation.

Nikos L. D. Chatzisarantis (National Institute of Education, Singapore)

Martin S. Hagger (School of Psychology and Speech Pathology, Curtin University, Australia)

The present study examined utility of an intervention based on trans-contextual model in influencing physical activity intentions and behavior during leisure-time. The intervention program aimed to enhance pupils' perceptions of autonomous motivation, perceptions of autonomy support, physical activity intentions, and behavior by facilitating an autonomous interpersonal orientation among physical education teachers. A cluster randomized design with schools as the unit of randomization was adopted. Participants comprised 150 pupils selected from 8 schools (Male = 71, Female = 79, Age = 15.03, SD = .40). The data were analyzed using multivariate analyses of variance and path analysis. Consistent with trans-contextual model, results indicated that pupils who were taught by autonomy supportive teachers were more likely to perceive their teachers as autonomy supportive, adopted a more autonomous motivational orientation during physical education, and reported stronger intentions to exercise during leisure-time than pupils in the control condition who were taught by teachers adopting a less autonomy supportive interpersonal style. Results also indicated that autonomous motivation mediated the effects of the intervention program on intentions and behaviour. In addition, intentions mediated the effects of autonomous motivation on physical activity behaviour. It is concluded that the trans-contextual model provides a useful framework for the development of school-based interventions that ultimately influence leisure-time physical activity participation.

Perceived learning and performance climates and need satisfaction in physical education as predictor.

Vassilis Barkoukis (Department of physical Education and Sport Science, Aristotle University of Thessaloniki, Greece)

George Lambropoulos (Department of physical Education and Sport Science, Aristotle University of Thessaloniki, Greece)

Rodafinos Angelos (Department of Psychology, CITY Liberal Studies, Faculty of the University of Sheffield, UK)

Haralambos Tsorbatzoudis (Department of physical Education and Sport Science, Aristotle University of Thessaloniki, Greece)

The Trans-Contextual Model (TCM) of motivation proposes that teacher initiated motivational climate in physical education (PE) influence the formation of autonomous motivation in PE, which in turn, affect leisure-time (LT) autonomous motivation. In the TCM traditional research motivational climate has been studied through teachers' autonomy support. However, achievement goal theory argues that perceived learning and performance dimensions of motivation climate should also be considered. In addition, research evidence has indicated that the effect of motivational climate on motivation is mediated by students' need satisfaction. Thus, the purpose of the study was a) to investigate the ability of perceived learning and performance climates to predict leisure-time autonomous motivation, and the mediating role of need satisfaction and b) further test the mediating role of planned behavior theory on autonomous motivation - leisure-time physical activity (LTPA) relationship in a sample of Greek students. The sample of the study consisted of 183 high school students (Mage = 13.93, SD = .78). Students completed measures of perceived learning and performance climates, need satisfaction, PE and LT autonomous motivation. The first set of mediational analyses indicated a positive direct effect of perceived learning climate and a negative direct effect of perceived performance climate on PE and LT autonomous motivation. Competence need satisfaction fully mediated the effect of perceived learning and performance climate on PE and LT autonomous motivation. The second set of mediational analyses indicated that LT autonomous motivation predicted intentions towards LTPA, through the mediating effect of attitudes and perceived behavioral control, but not actual LTPA. Instead, intentions towards LTPA predicted actual LTPA. The findings of the present study provide important information on the mechanism through which teacher initiated motivational climate affects LTPA.

Testing an integrated model of the theory of planned behaviour and self-determination theory for different energy balance-related behaviours and intervention intensities.



Nele Jacobs (Faculty of Medicine, Hasselt University, Diepenbeek, Belgium)
Martin S. Hagger (School of Psychology and Speech Pathology, Curtin University, Australia)
Sandra Streukens (Faculty of Business Economics, Hasselt University, Diepenbeek, Belgium)
Ilse De Bourdeaudhuij (Department of Movement and Sports Sciences, Ghent University, Belgium)
Neree Claes (Faculty of Medicine, Hasselt University, Diepenbeek, Belgium)

Objectives:

The aim of the study was to test the relations between constructs from the self-determination theory (autonomous and controlled motivation), the theory of planned behaviour (attitudes, self-efficacy, and intentions), and behaviour change within a theoretically integrated model. Additionally, the aim was to test if these relations vary by behaviour (physical activity or dietary behaviour) or intervention intensity (frequency).

Design:

It was a randomized controlled trial with a 'usual care' condition (medical screening only) and an intervention condition (medical screening + access to a website and coaching). Participants in the latter condition could freely determine their own intervention intensity.

Methods:

Participants (N = 287) completed measures of the theoretical constructs and behaviour at baseline and after the first intervention year (N = 236). Partial least squares path modelling was used.

Results:

Changes in autonomous motivation positively predicted changes in self-efficacy and intentions towards a healthy diet. Changes in controlled motivation positively predicted changes in attitudes towards physical activity, changes in self-efficacy, and changes in behavioural intentions. The intervention intensity moderated the effect of self-efficacy on intentions towards physical activity and the relationship between attitude and physical activity. Changes in physical activity were positively predicted by changes in intentions whereas desired changes in fat intake were negatively predicted by the intervention intensity.

Rehabilitation and prevention for sport injury: Integrating SDT and the TPB.

Chan D. K. (School of Psychology, University of Nottingham, UK)
Hagger, M. S. (School of Psychology and Speech Pathology, Curtin University, Australia)

Objectives:

Two studies investigated the relationships between athletes' perception of autonomy support from coaches, autonomous motivation, controlled motivation, attitude, subjective norm, perceived behavioural control (PBC), and intention regarding the rehabilitation (Study 1) and prevention (Study 2) of sport injury.

Design:

Cross-sectional study with correlational design.

Method:

Full-time athletes completed questionnaires of variables in Study 1 (N = 214, M age = 19.29, SD = 4.03) or Study 2 (N = 533, M age = 16.79, SD = 2.80). Structural equation modeling with partial least square estimation and 5000 sample bootstraps was employed to analyze the data.

Results:

Both studies revealed acceptable model fits (e.g., average variance extracted = .60 to .83, factor loading range = .71 to .94, composite reliability = .82 to .93) and path estimates were generally consistent with hypotheses: Autonomy support positively predicted autonomous motivation, which was a positive predictor of attitude, subjective-norm, and PBC. Autonomous motivation in turn was positively associated with intention through the mediation of attitude, subjective-norm, and PBC. Unexpectedly, controlled motivation positively predicted PBC, and its positive effect on intention was mediated by PBC.



Conclusions:

Findings from the two studies suggested that the psychosocial and motivational factors from self-determination theory might help explain the belief-oriented social cognitive variables from the theory of planned behaviour. The integration of the two theories might provide a comprehensive framework for understanding how distal and proximal psychological processes underpin sport injury prevention and rehabilitation.

Let's (self-)talk ... sport : three approaches and a meta-analysis.

Organizer: Antonis Hatzigeorgiadis (University of Thessaly, Greece)

Discussant: Miquel Torregrossa (Universitat Autònoma de Barcelona, Spain)

The multicultural character of contemporary societies is progressively growing. Societies which until recently were relatively homogeneous, are now experiencing the expansion of the population with the addition of culturally different groups, which occasionally becomes a source of conflict. The issue of multicultural integration is therefore particularly important. Sport has been recognized as an important socializing agent because of the large number of participants that are attracted; nevertheless, sport is also likely to reinforce existing differences. Thus, organized attempts are required towards the goal of social integration, through the development of sports environments specifically designed to address these objectives. This symposium presents a project initiated by the European Federation of Sport Psychology (FEPSAC) regarding the integrative role of sport in contemporary multicultural societies. The first presentation focuses on an overview of the conducted research; a model of ethnic and cultural identity salience will be presented and the relevant constructs will be described; in addition measurement issues will be addressed. The second presentation focuses on individual differences; ethnic and cultural identity salience will be examined in relation to demographic characteristics and sport participation factors. The third presentation focuses on the role of motivational factors; motivational climate, autonomy support and controlling coaching behaviour will be examined as determinants of ethnic and cultural identity salience. Finally, the fourth presentation will address issues regarding to the practical implication and the development of interventions aiming to promote the integration in contemporary multicultural societies through sport.

Do self-talk interventions improve performance in sport? Yes, they do! Meta-analytic evidence.

A Hatzigeorgiadis (University of Thessaly, Greece)

N. Zourbanos (University of Thessaly, Greece)

E. Galanis (University of Thessaly, Greece)

Y. Theodorakis (University of Thessaly, Greece)

The purpose of this presentation is to introduce the ethnic-cultural identity approach to the integrative role of sport in multicultural societies, and describe the conceptualization and assessment of ethnic and cultural identity. The ethnic-cultural identity salience has been suggested as an important determinant of social integration in multicultural groups. Ethnic identity salience reflects the degree to which individuals hold their ethnicity to be of importance, whereas cultural identity salience reflects the degree to which individuals hold the larger culture to be of importance. Depending on ethnic and cultural identity salience, individuals may evaluate their group or the culture they live in positively or negatively, and may be more or less involved in ethnic or cultural practices. The Ethnic - Cultural Identity questionnaire, assessing two dimensions of Ethnic Identity (Ethnic Belonging and Feelings of Fringe) and two dimensions of Cultural Identity (Assimilation and Lack of Interaction), was translated into the different languages. Preliminary psychometric evaluation provided support for the multi-cultural use of the instrument and brought to the attention issue for consideration. The instrument was edited in the individual languages and administered for the final stage of the project. Confirmatory factor analysis for the second set of data further confirms the structural validity of the instrument (CFA: .94). Overall, the ethnic-cultural identity salience approach seems to provide a useful framework for the study of multicultural integration through sport.

The Barcelona Self Talk and Tennis Project: effects of self-talk and a combination with feedback.



A.T. Latinjak (Universitat Autònoma de Barcelona, Spain)
M. Torregrosa (Universitat Autònoma de Barcelona, Spain)
J. Renom (Universitat de Barcelona, Spain)
F. Azócar (Universitat Autònoma de Barcelona, Spain)

This presentation focuses on the examination of ethnic and cultural identity salience as a function of individual differences. The Ethnic-Cultural Identity (ECI) questionnaire, which comprises the four dimensions ethnic belonging, feelings of fringe, assimilation, and lack of interaction, was administered to athletes from 4 European countries (Denmark, Germany, Greece and Spain). The sample consisted of 992 young athletes (725 males and 258 females) with a mean age of 15.27 (\pm 2.07) years and mean participation in organized sport of 5.63 (\pm 3.71) years. Two hundred sixty-three were individual sport athletes, whereas 729 were team sport athletes. The four ethnic-cultural identity dimensions were examined in relation to demographic characteristics and sport participation variables. Among participants with dominant background, significant effects were found for country of residence, sex, type of sport and level of participation. Relationships between dimensions of ECI and age or sport experience were generally low. Adequate data to allow comparisons between athletes with dominant and non-dominant cultural background were obtained from two countries (Greece and Spain). The analyses revealed a significant background by country interaction showing different patterns of differences in ECI between athletes with dominant and non-dominant background for the two countries. Overall, the data provide useful information regarding the influence of demographic and sport variables on dimensions of ethnic and cultural identity salience which should be considered when designing interventions for the different group targets

Relationships between observable and self-reported self-talk during competitive tennis performance.

N. Zourbanos (University of Thessaly, Greece)
S. Kalaroglou (University of Thessaly, Greece)
A. Hatzigeorgiadis (University of Thessaly, Greece)

This presentation focuses on the examination of the relationships between ethnic and cultural identity salience and motivational factors in the sport environment; in particular, motivational climate, autonomy support, and controlling coaching behaviour. Participants were 972 young athletes from 4 European countries, Denmark (n = 106), Germany (n=255), Greece (n=243) and Spain (n=368). Participants completed the Ethnic-Cultural Identity questionnaire, comprising four identity dimensions, ethnic belonging, feelings of fringe, assimilation, and lack of interaction; the Motivational Climate Scale for Youth Sport comprising two motivational dimensions (task oriented climate and ego oriented climate); the Sport Climate Questionnaire assessing autonomy support; and the Coaches' Controlling Interpersonal Style which comprises the four dimensions of controlling behaviour, rewards, negative conditional regard, intimidation, and excessive personal control. Canonical correlation was calculated to examine the multivariate relationships between the ethnic-cultural identity dimensions and the sport motivational factors. The analysis showed that task oriented motivational climate in particular and autonomy support to a lesser degree were positively related, whereas ego oriented climate and controlling coaching behaviour were negatively related to integrative patterns of ethnic and cultural identity characterized by high cultural attributes (positive assimilation and high negative lack of interaction) and moderate ethnic identity attributes (high negative feelings of fringe and low positive ethnic belonging). The present findings can provide the foundation on which interventions to promote integration through sport should be designed and developed.

Satisfaction of basic needs as an antecedent of athletes' inherent self talk.

A.T. Latinjak (Universitat de Girona, Spain)
M. Torregrosa (Universitat Autònoma de Barcelona, Spain)
C. Viladrich (Universitat Autònoma de Barcelona, Spain)
Y. Ramis (Universitat Autònoma de Barcelona, Spain)
S. Alcaraz (Universitat Autònoma de Barcelona, Spain)

This presentation focuses on the practical interpretation of the project findings for the development of



guidelines and applications to promote integration through sport in young athletes from different ethnic and cultural backgrounds. Based on the key findings of this project several issues can be raised. First, aspects related to the motivational environment were shown to be important. In accordance to the literature on moral and social outcomes, a task-mastery oriented climate was the most adaptive and influential motivational factor. In addition, autonomy support was also related to adaptive integrative patterns. The principles of these two theoretical approaches should be considered and directed towards integration goals. Second, individual differences was another important factor to consider. The results showed differences between the different countries, but also in relation to personal characteristics, such as sex and sport characteristics, such as individual versus team sports. Therefore, interventions should be developed based on key principles identified above, however, they should be adjusted to the particular context to which they take place. Guidelines and directions for the development of such interventions based on the above findings are further discussed and ideas for the effective promotion of integration are presented.

We will rock you: the multifarious effects of music in exercise and sport.

Organizer: Costas I. Karageorghis (Brunel University, UK)

Discussant: Chris G. Harwood (Loughborough University, UK)

Music is almost omnipresent in exercise and sport environments. It is recognised by researchers and practitioners alike as having the potential to produce significant benefits for physical performance as well as the psychological state of performers. The principal benefits associated with music use are proposed to be improved mood, pre-event activation or sedation, reduced perceptions of exertion, enhanced work output and duration, improved skill acquisition, incidence of flow states, and dissociation from feelings of pain and fatigue (Terry & Karageorghis, 2011). This symposium addresses the use of music in exercise and sport from several different perspectives and brings together researchers from three countries. The first paper, presented by Mr Leighton Jones (UK), re-evaluates the relationship between exercise heart rate and music tempo preference, highlighting the limitations of previous conceptualizations of this relationship. The second paper, presented by Dr Xavier Sanchez (The Netherlands), addresses the important role of lyrics in music and how they influence a range of psychophysiological outcome measures; this is an area that has, to date, received scant attention from researchers. The third paper, presented by Prof Tony Morris (Australia), evaluates the effects of relaxing and arousing music on imagery for dart throwing, continuing an established line of research in target sports. The final paper, presented by Dr Costas Karageorghis (UK), addresses the ergogenic, psychological, and psychophysiological effects of synchronous music on the running performance of elite Australian triathletes. Dr Chris Harwood (UK) will act as discussant to stimulate audience participation once the formal presentations are concluded.

On the exercise heart rate-music tempo preference relationship.

Costas Karageorghis (Brunel University, UK)

Leighton Jones (Brunel University, UK)

There has been a plethora of studies in the last decade that have addressed the impact of music either as an ergogenic aid or as a means by which to regulate affective responses to exercise (e.g., Edworthy & Waring, 2006; Lim, Atkinson, Karageorghis, & Eubank, 2009; Rendi, Szabo, & Szabo, 2008). There is a corpus of work that has addressed the relationship between working heart rate, usually during an exercise task, and preference for music tempo (e.g., Karageorghis, Jones, & Low, 2006; Karageorghis, Jones, & Stuart, 2008; Karageorghis et al., 2011). This work has focused on the asynchronous use of music (where there is no conscious synchronisation between movement and music tempo) as opposed to synchronous or pre-task music. The work stems from the notion espoused by many exercise practitioners that music tempo should be allied to expected heart rate (e.g., Gfeller, 1988) and has challenged previous understanding that preference would increase linearly with exercise heart rate (Iwanaga, 1995a, b). The programme of research has shown that the relationship between exercise heart rate and preference for music tempo may be quartic in nature (three points of inflection) and be characterised by a much narrower tempo range than previously thought. Recommendations for the extension of this lineage of work and examination of the stability of the relationship will be addressed. The implications for the prescription of music in exercise and physical activity contexts will also be discussed with practical implications provided for practitioners.

Role of lyrics in the music-performance relationship: a preliminary study.



Xavier Sanchez (University of Groningen, Netherlands)
Samantha L. Moss (University of Chester, UK)
Craig Twist (University of Chester, UK)
Costas I. Karageorghis (Brunel University, UK)

This study addressed the role of the musical constituent of lyrics with reference to a range of psychophysiological variables during submaximal cycle ergometry. In a two-factor repeated measures design, participants ($N = 25$; 20.88 ± 1.42 years of age) performed three 6-min cycling trials at 75% HR max under conditions of music with lyrics (ML), music without lyrics (NL), and a no-music control (NM). Cadence (revolutions per minute; RPM), heart rate (HR) and perceived exertion (RPE) measures were taken at 2-min intervals during each trial. Positive (PA) and negative (NA) affect was assessed before and after each trial. An interaction effect ($p < 0.05$) emerged for RPM which showed that participants cycled at a higher cadence under ML and NL conditions when compared to NM at minutes 2, 4, and 6. No interaction effects ($p > 0.05$) were found for HR, RPE, PA, and NA, although there was a significant main effect ($p < 0.05$) across time points for each of these variables. Specifically, HR and RPE increased from minutes 2 through to 6, while PA increased and NA decreased from pre- to post-trials. Findings showed that music increased participants' cadence during cycling although RPE and HR did not differ across conditions. This indicates that musical accompaniment may elicit enhanced efficiency, as participants pedalled faster while listening to music. No differences in cadence were found between the two music conditions, although the track played with lyrics was rated as being significantly more motivating than the same track without lyrics.

Effects of relaxing and arousing music on imagery for dart throwing.

Garry Kuan (Victoria University, Australia)
Tony Morris (Victoria University, Australia)
Peter C. Terry (University of Southern Queensland, Australia)

The purpose of this study was to examine the effect of relaxing and arousing music during imagery rehearsal on dart-throwing performance. Forty-five volunteer sports science students with intermediate imagery ability, as measured by the Sport Imagery Ability Measure, were matched into three groups: 1) Unfamiliar relaxing music with imagery; 2) Unfamiliar arousing music with imagery; and 3) no music with imagery (control). Unfamiliar music was chosen to minimize the potential confound of past associations. A pre-test-intervention post-test design study was conducted, involving dart throwing at a concentric circles dartboard. To measure state anxiety the CSAI-2R and Sport grid-R were administered before the 40-trial dart-throwing performance pre-test. Participants completed 12 sessions of imagery of accurate dart-throwing, then the CSAI-2R and Sport grid-R were re-administered in session 12 followed by the 40-trial performance post-test. In sessions 1 and 12, HR, GSR, and peripheral temperature were measured. ANOVA revealed a significant main effect for music ($F = 3.25$, $p < .05$, $\eta^2 = .134$). A significant interaction effect was observed for dart-throwing performance across the music conditions ($F = 12.0$, $p < .05$, $\eta^2 = .36$). Paired t tests in each music condition revealed that there was a significant improvement of performance in the relaxing music ($p < .05$) and arousing music groups ($p < .05$), but not in the no-music control group ($p > .05$). In conclusion, relaxing and arousing music both showed improvements in dart throwing performance, although unfamiliar relaxing classical music showed a larger performance increase in this fine motor skill. Self-report and psychophysiological measures of anxiety and arousal showed changes that were consistent with those expected for relaxing and arousing music.

Ergogenic, psychological, and psychophysiological effects of synchronous music on treadmill running.

Peter C. Terry (University of Southern Queensland, Australia)
Costas I. Karageorghis (Brunel University, UK)
Alessandra S. Mecozzi (University of Southern Queensland, Australia)
Shaun I. D'Auria (Queensland Academy of Sport, Australia)

Music has been shown to exert various ergogenic (i.e., work-enhancing), psychological (e.g., improved mood), and psychophysical (i.e., lowered perceptions of exertion) benefits during physical activity. When movements are performed in synchrony with music, some of the benefits (e.g., work-enhancement) appear to be amplified



(see e.g., Karageorghis, Mouzourides, Priest, Sasso, Morrish, & Whalley, 2009). To further develop the train of research on synchronous music and to extend it to elite athletes, the present study utilised a sample of Australian triathletes (N = 11) who were exposed to either self-selected motivational music, a neutral equivalent (in terms of its motivational qualities), or a no-music control during steady-state and exhaustive treadmill running. The measured variables were work output (aerobic endurance), psychological (mood states, feeling states), psychophysical (RPE scale), and physiological (blood lactate, oxygen consumption, metabolic efficiency). Both music conditions, in particular the motivational selection, were found to exert consistent benefits across each dependent measure when compared to the no-music control. Notably, feeling states remained more positive throughout the test in the motivational music condition when compared to the other conditions. However, the differences in endurance between motivational and neutral music conditions were negligible, indicating that that music's affective/aesthetic qualities are of lesser importance when used synchronously. The present findings also indicate that both music conditions enhanced metabolic efficiency to a degree that implies a practical value at the highest levels of competition. Guidelines will be offered to facilitate the application of synchronous music among elite endurance athletes.

Interactive Session with one World Champion Windsurfer

Coordinator: Sidonio Serpa, Faculty of Human Kinetics - Technical University of Lisbon

Speaker: João Rodrigues, Portuguese Sailing Federation; Secretariat of Education & Sport (Autonomous Government of Madeira)

Excellence in sport is a result of multidimensional aspects including the psychological issues. Moreover, competing at World top level for 20 consecutive years demands a unique psychological approach as it is the case of the five times Olympian Joao Rodrigues, also World Champion and 4 times European champion. A phenomenological perspective will be presented in regard to the athlete's career development. The personal meaning of sports participation will be reported, as well as major life and sports events, and the coordination of sports, academic and professional projects. Moreover, the coach's and family's influence along the career will be discussed. The evolution of the motivational process, the personal coping strategies for competition and for overcoming frustration, the development of personal training methods, and challenging the personal limits will be presented and discussed in an interactive bases with the audience.



New trends in the psychological work with elite football: an applied proposal.

Organizer: Marcelo Roffé (University of Buenos Aires, Argentina)

Discussant: Santiago Rivera (University of Vigo, Spain)

Football constitutes a broad work field for psychologists as it is one of the most popular sports in many countries and practiced from amateur to a professional level. On the other hand, sport psychology as a science is obliged to create and continuously update the knowledge that concerns its study field (Dosil, 2006, García-Más, 2002; Morilla et al. 2004; Morilla & Gomez, 2009, Roffé, 2005). In addition, new contributions from related disciplines are a necessity for athletes to enhance their performance and thereby make sport's elite advance, as the competition is increasingly demanding. Therefore, this symposium presents some results arising from research, reflection and experience of experts in the field. From a mainly practical orientation, the works cover the following areas: the most relevant psychological variables for young players, a proposal for understanding and intervening with athletes, the type of imaginary technique used in the elite, the player's psychological expertise by playing positions, and the psychology integrated-global work with individuals and groups. Thus, new trends related to football elite performance are exposed in order to promote the professional practice of the sport psychologist and the progress of athletes in achieving their goals.

What is psychologically important in youth sports? A graphic investigation.

A. García-Mas (University of Balearic Islands, Spain)

M. Roffé (University of Buenos Aires, Argentina)

M. Morilla (University of Pablo de Olavide, Spain)

João Lameiras (Instituto Superior de Psicologia Aplicada, Portugal)

One of the most common results concerning the relevant variables in the world of young athletes that are started in the competition is the existence of a not very consistent psychological knowledge in this age group, so important for the maintenance or desertion of the sport (García-Mas et al., in review, Garcia-Mas et al., 2010, Romero, Garcia-Mas & Brustad, 2009, Romero et al., 2010). Therefore, we decided to initiate the process of designing a graphic test (Graphic Test of Sport Situations, TGSD, Garcia-Mas et al., 2008), trying to unify the idea of a reactive graphics representing real sport situations, while involving the relevant psychological variable selected from the theory and existing tests, and psychometric analysis of a classic information-gathering tool. After a transcultural application, to 180 young players aged between 8 and 14 years, the results show that the TGSD has demonstrated consistency and reliability in most of their scales and their factorial validity according to the previously considered variables. It also shows the different weight of psychosocial factors, the importance given to the individual and team self-efficacy, perception of cooperation and cohesion, and perceptions of relevance of other psychological variables. In light of the findings described above, some conclusions are presented concerning the different relevance of psychological variables applicable to the study of young athletes in a competitive environment.

GOAL intelligence: A proposal to increase the performance of elite soccer players.

M. Roffé (University of Buenos Aires, Argentina)

S. Rivera (University of Vigo, Spain)

M. Morilla (University of Pablo de Olavide, Spain)

In football the concept of intelligence is used more to describe a coach than a player, and even the players appreciate this capacity in their team managers (Rosado et al., 2007). The truth is that in people different types of intelligence are present in the form of skills and useful biological and psychological potential to process a particular type of information, solve problems and create products (Gardner, 2004), all of which in the sporting context is equivalent physical, technical, tactical and psychological characteristics which are used to solve many situations. An example might be a number of chained actions during the game, a situation that include those that would be the group of most relevant intelligences in soccer practice, bodily-kinesthetic, spatial, intrapersonal and interpersonal (adapted from Gardner, 1994, 2004). Once the different intelligences present in this sport are defined, based on the Theory of Multiple Intelligences (Gardner, 1994), a model of



intelligence is proposed to guide players performance, using the acronym GOAL. The letter "G" refers to the ability to set clear goals that guide daily efforts of the player, "O " concerns the ability to organize, evaluate and plan the acquisition of the different intelligences, "A" refers to the application and integration of these resources, and "L" represents the leadership required to manage own and team skills in an effective way.

Imagery model in football: Experience, methods, scope and results.

M. Roffé (University of Buenos Aires, Argentina)

R. de la Vega (Universidad Autónoma de Madrid, Spain)

Maginary is the power to see with closed eyes and to feel with the heart what you want to be (Botterill and Orlick, 1988). Positive images are essential for athletes to see how they want to be when competing (Orlick, 2008) and also correct mistakes (Roffé, M. and Ucha, 2004). In football's elite is difficult to teach and implement these techniques, despite some experinces: Spanish Football Team U23, Argentinan U20 Team (Roffé, and Ucha, 2004) or Sevilla F.C. (Morilla and Gómez, 2009). The aim is to present the three existing imaginary types (Weigber & Gould, 1996), when and how to implement it, whether large or small groups, the image selection, the scope and the wanted results. We also want to raise the convenience to practice before or after a relaxation technique. We know that stress prevails in the elite football competition demands are increasing, "a gradual and voluntary reduction of the concentration or the tone of the activity of muscle groups as well as for nervous system" (Jacobson, 1928 cited by Le Scanff and Bertsch 1999). Managing this cognitive technique has many benefits to athletes (Dosil, 2008), and we conclude with this testimony: "I think if I can take from 20 to 30 minutes before each game and see what will happen to be able to react without thinking, because what I have seen in my mind... and when it comes in the match, I do not think, I do. No second thoughts, no doubts" (Phil Jackson, 2004).

Football player's psychological specialization by playing position.

S. Rivera (University of Vigo, Spain)

The definition of the psychological variables involved in each sport is a necessity for the progress of applied sport psychology (Dosil, 2002; Dosil, 2005; Dosil & Garcés de los Fayos, 2008). Therefore, in a team sport like football, to specify the psychological requirements of each player position becomes relevant and only few goalkeepers psychological profile has been described (Roffé, 2005). Each technical or tactical action requires both physical and motor skills such as basic (perception and attention) and high mental processes (thought or language). These are usually trained in an implicit way during the workouts, but not often integrated as a specific objective. The information perceived by each player depending on their position is different, the quantity and quality of the attention focus changes carried out vary, and therefore, the assessment of the risks involved in a decision undoubtedly influence their accuracy and implementation quality. The Sports Psychological Needs Questionnaire (Dosil et al., 2005) will be applied to a sample of 180 players between 13 and 18 years old and proper psychometric analysis will be completed. The proposal seeks to identify psychological variables that characterize each position in football, contribute to enhance the quality of the nonprofessional footballers training sessions and offer an advance to football applied psychology.

Integrated training programs in football: a case study with a senior football player.

M. Morilla (University of Pablo de Olavide, Spain)

S. Rivera (University of Vigo, Spain)

The aim of the training program is to demonstrate that integrated training enhance performance in technical, tactical, physical and psychological areas in a senior football player during a whole season. Weekly room and field sessions were held addressed to the future application on different competition area skills mentioned above. The 4 axis were assessed during the preseason, after the first competition round and at the end of the season. The integration of different skills and conditions for playing football must be translated into an improved performance in the athlete and must prepare him to more effectively to face the demands of the professional competition. It is highlighted the importance and usefulness of psychological skills training have on improving technical, tactical and physical skills (Morilla and Gómez, 2009), as well as its inclusion and specific practice on daily training sessions (Morilla et al . (2011).



New perspectives in global tasks design for football training.

M. R. Bohórquez Gómez-Millán (University of Seville, Spain)

M. Lorenzo (University of Seville, Spain)

M. Valiente (Sevilla F.C., Spain)

The latest trends in soccer training have stressed the importance of a multidisciplinary work in the preparation of athletes, covering different areas: technical and tactical training, physical training, psychological preparation, physiotherapy (prevention and rehabilitation), medicine, nutrition, etc. However, the main difficulty faced by multidisciplinary teams of work in sport is the generalization of trained skills of each areas of study.

It has generated the need to integrate the knowledge that different professionals bring to the preparation of athletes in a single workspace: football (soccer) training in the strictest of sense. A sequenced methodology to create training exercises that allow simultaneous and systematic work of the skills to develop will be an essential tool for meaningful training in football.

Five steps form a new methodological proposal to design football tasks that has shown enormous virtues in the design of comprehensive trainings with different football teams.

Taking it to the next level: recent developments in organizational psychology in elite sport and beyond.

Organizer: David Fletcher (Loughborough University, UK)

Discussant: Zara Whysall (Lane4 Management Group Ltd, UK)

The rapid development of elite sport in Europe and across the world has had far-reaching psychosocial ramifications for those operating within its sphere of influence. Whilst sport psychologists in the latter part of the 20th century largely focused on the cognitive determinates of elite performance, the findings of recent research suggest that sport psychologists in the 21st century will need to better understand the organizational influences on world-class athletes (Fletcher & Wagstaff, 2009). The purpose of this symposium is, therefore, to disseminate recent developments in organizational psychology in elite sport and beyond. The symposium is divided into four presentations. The first contributes to a growing theoretical body of literature relating to the roles emotional intelligence abilities and emotion regulation strategies may play in organizational functioning in sport. Drawing on recent empirical research, the second presentation discusses the competencies that are required by NPDs operating in elite sport and outlines the development of a competency model that consists of performance leadership and management best practice rings and a competency cube. The third presentation explores sport performers' cognitive appraisals of organizational stressors. More specifically, the situational properties underlying stressors and the transactional alternatives (stress appraisals) that 13 national standard swimmers experienced in relation to each property were investigated. Based on an extensive review of the organisational performance literature, the fourth and final presentation outlines the key factors associated with organisational performance within a model of the high performance environment under the following headings: leadership behaviours, performance enablers, people factors and organisational climate.

Exploring emotion abilities in sport organizations.

Christopher R. D. Wagstaff (University of Portsmouth, UK)

David Fletcher (Loughborough Univeristy, UK)

Sheldon Hanton (University of Wales Institute, Cardiff, UK)

This study aimed to contribute to a growing theoretical body of literature relating to the roles emotional intelligence abilities and emotion regulation strategies may play in organizational functioning in sport. Semi-structured interviews were conducted with 21 participants (comprising: 5 international athletes, 4 international coaches, 4 national performance directors, 4 administrators, 2 chief executive officers, and 2 non-executive directors.) representing five National Sport Organizations (NSOs). The participants were asked to describe regulation strategies or abilities that they had used or observed which they considered to be successful in enhancing organizational functioning. Key emotional intelligence abilities (i.e., identifying, processing and comprehending, and managing emotions) associated with the use of specific regulation



strategies (i.e., forward-tracking, back-tracking, reappraisal, restructuring, suppression, and impulse control) were identified. Importantly, emotional intelligence abilities were found to have a highly-contextualized quality and their impact upon regulation strategy selection was influenced by socio-cultural norms present within organizations. Further, the findings indicated that the ability to use these strategies intelligently could be learned and were deemed to contribute to optimal organizations functioning. Based on these findings, it is argued that approaches to developing emotional abilities may be effective in facilitating organizational functioning by assisting individuals to perceive, process and comprehend, and manage emotions intelligently. The results also advance the extant sport psychology literature on emotion abilities by illuminating the highly-contextualised nature of emotion abilities.

Lead to succeed: an evidence-based approach to performance leadership and management in elite sport.

Rachel Arnold (Loughborough University, UK)
David Fletcher (Loughborough University, UK)

The position of National Performance Director (NPD) in elite sport is highly visible, partly because individuals operating in this role are accountable for public financial investment. This accountability brings increased attention to the competency of NPDs, especially since some may lack experience in the role, including individuals with a predominantly participation or coaching background. The purpose of this presentation is to discuss the competencies that are required by NPDs operating in elite sport. Specifically, the presentation outlines the development of a competency model that consists of performance leadership and management best practice rings and a competency cube. To elaborate, the performance leadership and management best practice rings highlight how NPDs create, optimize, and maintain a high performance environment through the development of a vision, the management of operations, the leadership of people, and the creation of a culture. The competency cube illustrates six stages of professional development, which are: previous employment, prospective, new, developing, established, and retired NPDs. In addition, the cube contains the competencies relating to what NPDs are required to do (foundational competency domain) and the knowledge, skills, and values necessary to perform their work (functional competency domain). It is hoped that this model will provide valuable assistance to NPDs in determining both their areas and limits of professional competence. The presentation concludes by offering sport psychologists suggestions for enhancing the competencies outlined in the model, alongside recognizing the constraints that may be encountered when implementing an intervention with this population.

Getting to the heart of the matter: an examination of swimmers' appraisals of organizational stressors.

Faye F. Didymus (Loughborough University, UK)
David Fletcher (Loughborough University, UK)

Cognitive appraisal is the intra-individual mechanism that lies at "the theoretical heart of psychological stress" (Lazarus, 1999, p. 61). It has been suggested that further research is needed to explore the explanatory potential of cognitive appraisal and its role in the organizational stress process in athletes (Fletcher, Hanton, & Mellalieu, 2006). Therefore, this study explored sport performers' cognitive appraisals of organizational stressors. More specifically, the situational properties underlying stressors and the transactional alternatives (stress appraisals) that 13 national standard swimmers experienced in relation to each property were investigated. Data were collected and analyzed using daily diaries over a 28-day period of training and competition. The results reveal that swimmers appraise a wide range of organizational stressors in different ways and that they appear to experience both challenge and threat states in response to similar or different situations. Furthermore, support was found for the majority of situational properties of stressors, thus extending general psychology literature to the sport psychology domain. Imminence had the greatest proportion of threat appraisals, novelty had the greatest proportion of challenge appraisals, and duration had the greatest proportion of harm/loss appraisals. By investigating the transactional alternatives experienced in relation to each situational property, this study furthers understanding of cognitive appraisal in sport performers and highlights its pivotal role in the organizational stress process. Furthermore, underlying properties may provide a universal understanding of the causes of stress in sport and may offer useful information for sport psychology consultants by serving as the basis for sport psychology interventions.



Developing high performing teams.

Zara Whysall (Lane4 Management Group Ltd, UK)

Kelly Walsh (Lane4 Management Group Ltd, UK)

In team sports, particularly sports which require high interdependency, the ability to act as a high performing unit is critical. The world of business is no different, with organisations increasingly relying on teams to achieve their goals. To this end, Lane4 has developed a framework of High Performing Teams (HPT), drawing on research conducted in diverse performance domains such as aviation, business, sport, medicine and the military. Our research focused on factors that distinguished between functioning teams and high performing teams.

The HPT Framework conceptualises high performing teams in terms of how they think (shared mental models, situational awareness and team learning), how they feel (team spirit, conflict and trust), what they do (communication, coordination, decision making), how they are led (team vision, support, challenge and shared leadership) and the psychological edge they possess (psychological momentum and mental toughness). It concentrates on the 'team level' factors or functional group dynamics that arise as a result of the individuals within the team. The framework is used in a holistic manner, addressing recent criticism that existing team research has been fragmented by a narrow focus on specific predictors of team performance.

The HPT framework and the associated diagnostic tool will be discussed using case studies and practical examples from the worlds of sport and business providing teams and team leaders with practical methods with which to create sustained team excellence.

Why do we do a sit-up or just sit?

Organizer: Sam Zizzi (West Virginia University, USA) & Claudio Nigg (University of Hawaii, USA)

Discussant: Sam Zizzi (West Virginia University, USA)

Abstract:

Increasing physical activity and decreasing sedentary behavior is related to the prevention of chronic diseases such as diabetes, obesity and some types of cancer. However, individuals of all ages across western countries are not meeting recommended guidelines for physical activity and engage in substantial amounts of sedentary behaviors. It is important to develop our understanding of why people engage in physical activity or decrease their sedentary behaviors. Therefore this symposium combines international expertise in theoretically-informed behavior change to address these topics. The first presenter will address a model of physical activity, or lack thereof, in children (Woods), which will be followed by a presentation of exploring potential reasons for increased sedentary behaviors (Nigg). The third presenter will discuss broader implications of theory based interventions addressing sedentary behavior, focusing on habit versus conscious processing, and exploring acceptable behavior change strategies for reducing sitting time (Biddle). Relatedly, the fourth presenter will explore the effects of planned versus impulsive/implicit influences on motivation and exercise behaviour using a self-regulatory framework (Hagger). Applications of theory to physical activity in clinical populations will be discussed by our fifth presenter (Sizzi). It is expected that theoretical and practical implications will be evident and time will be reserved at the end of the symposium for interaction with the audience.

The value of theory in promoting physical activity to young children.

Catherine Woods (School of Health and Human Performance, Dublin City University, Ireland)

A quasi-experimental non-randomised control design was used to evaluate the effect of the 'Be Active After-School Activity Programme' (ASAP) on influencing the predisposing and reinforcing factors on physical activity participation (based on the Youth Physical Activity Promotion model, YPAP, Welk). Second class pupils in four schools representing urban, rural, suburban and disadvantaged areas took part (N=312, 52% boys, average of 7.8 + .58 years). Forty one percent (n=129) self-selected to take part in the intervention (experimental group), 59% (n=183) were controls. No between group differences existed at baseline. The intervention, guided by the Social Ecological Model, targeted the environment (parents, teachers), the individual (pupils) and the behaviour (motor skill development). Pedometers provided physical activity data; a 39-item questionnaire evaluated change on YPAP. Data were collected pre, post and at 3 months retention. Post



the intervention more children, irrespective of group, met the physical activity guidelines. All boys, but only experimental girls, maintained this improvement at retention. All children improved their perceptions of the fun associated with physical exertion ($p < 0.05$) and parental encouragement ($p < 0.001$) from baseline to retention. Only the experimental group reported higher peer endorsement ($p < 0.05$) and higher perceived competence for physical activity at retention. All children recorded an increase in perceived parental support for physical activity immediately post intervention, however this difference, though greater than baseline, had decreased significantly over the retention period. Theory, both YPAP and SCT, assisted in the planning and evaluation of this physical activity intervention.

Can social cognitive predictors of physical activity explain inactivity?

Claudio Nigg (University of Hawaii, USA)
Lisamarie Bensman (University of Hawaii, USA)
Alana Steffen (University of Hawaii, USA)
Eve Kutchman (University of Colorado, USA)
Sarah Lampe (University of Colorado, USA)
Christine Schaefer (Colorado State University, USA)
Md Mahabub-UI Anwar (University of Hawaii, USA)
Lois Brink (University of Colorado, USA)
James Hill (University of Colorado, USA)
Ray Browning (Colorado State University, USA)

The benefits of physical activity (PA) and sedentary behaviors have been well documented for children. Theories such as the social cognitive theory (SCT) have been successfully applied to PA. Can these PA theory variables be useful in helping understand sedentary behaviors? To investigate this, elementary school children ($n = 258$; 49% female; M age = 10.22, SD = .77 years; 46.5% Hispanic, 26.6% White, 7.0% African-American; 19.9% Other) completed questionnaires of self-efficacy for PA, enjoyment of PA, Social Support for PA, frequency and duration of strenuous, moderate and mild PA (combined to MET min/week), and hours of sedentary time for a weekday and weekend day. Overall, the sample reported 3322.67 MET min/wek (SD = 1813.73); PA self efficacy mean of 3.18 (SD = .77); PA enjoyment mean of 4.32 (SD = .72); PA social support of 6.21 (SD = 1.51); and 61.42 (SD = 36.26) sedentary hours per week. Structural Equation Modeling (Mplus 6.1) revealed that the PA model fit reasonably well (CFI = .920, RMSEA = .044; all standardized betas $p < .05$) and explained 29.3% of PA. The model for sedentary behavior also fit well (CFI = .918, RMSEA = .044). However, only PA social support positively and PA enjoyment negatively predicted sedentary behavior, explaining a non-significant 4% of sedentary behavior ($p > .05$). This finding underlines that PA is not just the opposite of sedentary behavior but rather sedentary behavior needs to be addressed in its own right.

Sit and cry the blues! Issues in changing habitual sedentary behaviour.

Stuart Biddle (Loughborough University, UK)

Sedentary behaviour - operationally defined as sitting time - is a rapidly developing research field. Evidence suggests that prolonged sitting is bad for your health and may be independent of physical activity levels. Reducing sitting time presents a major challenge for psychologists as it is largely habitual or driven by strong environmental and social cues. In fact, a review of correlates of TV viewing in young people did not identify any psychological correlates (Gorely et al., Int J Beh Med, 2004). This presentation will summarise review-level evidence concerning the effectiveness of behaviour change interventions aimed at reducing sedentary behaviour. These findings will be discussed in the context of habit v conscious processing, use of traditional psychological theory and models, and additional evidence on the acceptability of behaviour change strategies from the development of a randomised trial - Project STAND - aimed at reducing sedentary behaviour in young adults at risk of diabetes.

Assessing the predictive validity of implicit and explicit measures of autonomous motivation for physical activity.

Martin Hagger (Curtin University, Australia)
David Keatley (University of Nottingham, UK)



Traditionally, research examining the motivational factors related to physical activity behaviour has adopted an explicit approach. However, growing support for associations between implicit motivational factors and physical activity behaviour has led to the development of theoretical models of physical activity behaviour that include both implicit and explicit variables. The aim of the current research was to advance this research by comparing the predictive validity of a newly developed implicit measure of autonomous motivation derived from self-determination theory for physical activity behaviour in a sample of undergraduate students (N=150). A dual-systems model was proposed and tested in which implicit autonomous motivation provided unique prediction of physical activity behaviour independent of explicitly-measured autonomous motivation from self-determination theory. A structural equation model indicated that the implicit measure significantly and independently predicted self-reported physical activity behaviour while explicit autonomous motivation predicted behaviour via the mediation of intentions. Results are consistent with the dual-systems model and suggest that implicit motives affect behaviour directly while explicit forms of autonomous motivation affects behaviour via a reflective, deliberative, and intentional pathway. Future implications for implicit processes, dual-process models, and autonomous motivation are outlined.

Promoting physical activity for weight loss in obese adults: Theory-based evidence from a "natural experiment" in the United States.

Sam Zizzi (West Virginia University, USA)

Participants in structured weight loss intervention programs are presented with the challenge of simultaneously changing multiple behaviors to achieve a balance of caloric intake. Theory-based research suggests that this process can be difficult for obese participants, who may have low fitness and self-efficacy levels, unrealistic expectations (Jones et al., 2005; Polivy & Herman, 2002), and few coping skills related to relapse prevention (Jones & Wadden, 2006). Randomized clinical trials (RCTs) are often considered the gold standard to forming "evidenced-based practice." However, the close monitoring, individual contact, and follow-up of patients in RCTs may significantly bias behavioral outcomes, and limit their external validity when these interventions are transferred from research labs to communities. Community-based physical activity interventions based on the social ecological model (Sallis and Owen, 2002) have the potential to impact many if structured to account for intrapersonal (e.g., attitudes), interpersonal (e.g., social support), and environmental features (e.g., access to equipment or safe walking routes). This presentation will summarize evidence across several studies evaluating an ongoing "natural weight loss experiment" among 60-70 fitness facilities in one state in the USA. Participants in this program are either obese (BMI>30) or overweight (25<BMI<30) with at least one co-morbid chronic condition. The physical activity and nutrition intervention is offered as part of a public insurance plan, and includes reduced-rate fitness and dietary services along with phone-based behavioral counseling. Data will include site-level and individual level findings from both qualitative and quantitative measures of behavior change.

Looking back and looking forward with the European Network of Young Specialists in Sport Psychology.

Organizer: Jannes Caroline (Center for Sports Medicine, Ghent University Hospital, Belgium)

Discussant: Weibull Fredrik (University of Birmingham, School of Sport and Exercise Sciences, UK)

The purposes of this symposium are: (1) to discuss the past, present and future of the European Network of Young Specialists in Sport Psychology (ENYSSP) within the reality of European cultural differences, and to (2) offer essential information on current education and post-education for young specialists sport and exercise psychology. The first paper by Jannes, Weibull, and Sanchez summarizes the origins of ENYSSP and the past ENYSSP workshops and studies. More specifically, the authors will summarize the history, structure and functioning of ENYSSP and look into several factors of satisfaction and dissatisfaction of current young specialists. The second paper by Lintunen discusses changes in the European education of sport and exercise psychology and the current status of the Erasmus Mundus program. The third paper by Schuls focuses on the use of supervision to enhance personal and professional development as a young specialist in sport psychology after graduation. The fourth and last paper proposes a panel discussion led by Caroline Jannes with guest such as Duarte Araujo, Taru Lintunen, Vana Hutter, Tatiana Riba, and Xavier Sanchez. The panel will discuss (1) current issues and challenges young specialists deal with, (2) cultural and technological aspects and difficulties we need to take account with, and (3) current and future solutions and tools young specialists could make use of.



ENYSSP yesterday and today: History, structure, studies and services.

Caroline Jannes (Center for Sports Medicine, Ghent University Hospital, Belgium)
Fredrik Weibull (University of Birmingham, School of Sport and Exercise Sciences, UK)
Eva Garcia Quinteiro (University of Santiago of Compostela, Spain)
Olesya Leschuk (EGP-UPBS, Porto Business School, Portugal)
Lara Lima (Bem-Me-Quero, Coimbra, Portugal)
Giorgio Merola (Centre for Professional Training - CTS "Luigi Einaudi", Italy)
Catarina Sousa (Universitat Autònoma de Barcelona, Spain)
Lina Vaisetaite (Lithuanian National Olympic Committee, Lithuania)
Nikolaos Zourbanos (University of Thessaly, Thessaloniki, Greece)
Xavier Sanchez (University of Groningen, Netherlands)

The foundation of the European Network of Young Specialists in Sport Psychology (ENYSSP) grew out of the European Master's Program on Exercise and Sport Psychology (Daraujo et al., 2006; Jannes et al., 2008). Specifically, its Intensive Course (IC) where students and lecturers from all over Europe interact during two weeks, inspired the students from the 1996-1997 and 1997-1998 editions to start up a network. These alumni started to work towards the development of a more stable forum to share ideas and knowledge between young professionals in the field. In 2003, during the FEPSAC congress in Copenhagen (Denmark), ENYSSP was formed officially. Some of the main objectives of ENYSSP are to coordinate European links between students, young researchers, educators and professional practitioners; to promote and facilitate a cross-national cooperation for research, education and applied work in Sport and Exercise Psychology (SEP); and to support the development and standardisation of official degrees in SEP within Europe. The structure of ENYSSP includes three different departments: Research, Applied and Education. The three departments are given equal importance within the organisation, which is reflected in the services ENYSSP provides. An ENYSSP study on satisfaction and dissatisfaction in young specialists all over Europe could guide the network in informing and assisting. Some of the services ENYSSP provides are the Website (www.enyssp.org), the Forum, Newsletters, and yearly Workshops (e.g. Barcelona, Bolzano, Trikala), and help for cross-cultural research.

The Erasmus Mundus Programme "European masters in sport and exercise psychology".

Taru Lintunen (University of Jyväskylä, Finland)
Dorothee Alfermann (University of Leipzig, Germany)
Erwin Apitzsch (Lund University, Sweden)
Athanasios Papaioannou (University of Thessaly, Greece)

The European Masters in Sport and Exercise Psychology (EMSEP), offered jointly by four European universities, was selected into the Erasmus Mundus Programme. Erasmus Mundus is a worldwide cooperation, mobility, and scholarship programme funded by the European Commission, which aims at enhancing quality in higher education and promoting intercultural understanding. The EMSEP is coordinated by the University of Jyväskylä. The other universities involved include Lund, Leipzig and Thessaly. The 120 ECTS credit programme lasts for two years and is conducted in English. EMSEP includes studies in two of the network's universities. Graduates will receive Master's degrees from two universities.

The first 21 EMSEP students started their studies in 2010. All the students were awarded an Erasmus Mundus scholarship (€ 47,000 during the two years of study for the non EU/EEA national and € 19,000 for the EU/EEA nationals). The EMSEP programme is truly international thanks to the students and teachers coming from all over the world. In addition to European professors and lecturers, teaching is provided by scholars coming from universities outside Europe.

EMSEP is the product of an exceptionally longstanding curriculum development effort initiated by FEPSAC and launched in 1996. An continuance of annual joint Intensive Courses (with the 14th IC in 2010 in Copenhagen) organised by 11 European universities has created an active European alumni organisation - ENYSSP. We have been pioneers in developing joint education programmes, which are in line with the policies of the European Commission regarding internationalization of education and unification of the European study area.



From supervisee to supervisor.

Mark Schuls (Mental Training and Coaching Centre, Groningen, Netherlands)
Vana Hutter (Faculteit der Bewegingswetenschappen, VU Amsterdam, Netherlands)

Supervision plays an important role in the education process of applied sport psychologists (Silva, Meltzer, & Lerner, 2007). The main reason for supervision is to help insure the health, welfare and needs of clients. A secondary, but still extremely important function of supervision is to help the supervisees grow as psychologists and counselors. In some countries, gaining experience of practice under the supervision of an accredited service provider is mandatory to become an accredited sport psychologist (Wylleman, Harwood, Elbe, Reints, & de Caluwe, 2009). In the Netherlands for example, supervised applied work with athletes, coaches and/or teams is embedded in the post-academic program for applied sport psychologists. The supervisors who are involved in this program are specifically trained for their role. The presenter will outline his own experiences as a supervisee when starting four years ago as a consultant and will elaborate on his training to become a supervisor at the post-academic program. The theoretic framework about "tasks" and "functions" used in this training will be shortly explained and examples of experiences with supplying supervision will be given.

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Panel Cafe: zooming in on young specialists in sport psychology today.

Duarte Araújo (Universidade Tecnica de Lisboa, Portugal)
Vana Hutter (Faculteit der Bewegingswetenschappen, VU Amsterdam, Netherlands)
Taru Lintunen (Department of Sport Sciences, University of Jyväskylä, Finland)
Tatiana V. Ryba (Aarhus University, Denmark)
Xavier Sanchez (University of Groningen, Netherlands)
Caroline Jannes (Ghent University Hospital, & Psy4Sport, Belgium)

Supervision plays an important role in the education process of applied sport psychologists (Silva, Meltzer, & Lerner, 2007). The main reason for supervision is to help insure the health, welfare and needs of clients. A secondary, but still extremely important function of supervision is to help the supervisees grow as psychologists and counselors. In some countries, gaining experience of practice under the supervision of an accredited service provider is mandatory to become an accredited sport psychologist (Wylleman, Harwood, Elbe, Reints, & de Caluwe, 2009). In the Netherlands for example, supervised applied work with athletes, coaches and/or teams is embedded in the post-academic program for applied sport psychologists. The supervisors who are involved in this program are specifically trained for their role. The presenter will outline his own experiences as a supervisee when starting four years ago as a consultant and will elaborate on his training to become a supervisor at the post-academic program. The theoretic framework about "tasks" and "functions" used in this training will be shortly explained and examples of experiences with supplying supervision will be given.

Austrian perspectives on sport psychological counseling and diagnostics.

Organizer: Sabine Würth (Universitaet Wien, Department of Sport Science, Austria)
Discussant: Günter Amesberger (University of Salzburg, Department of Sport Science, Austria)

This symposium aims to present some perspectives of the Austrian way to gap the bridge between sport psychological research and applied sport psychology in elite sport. Within the Austrian Network of Sport Psychology, applied psychologists who counsel elite athletes, sport teams and coaches are scientifically accompanied by the Universities of Vienna and Salzburg to enhance the quality and adequacy of the applied intervention. One crucial concern is to provide a process orientated diagnostic following a three dimensional



approach that links subjective self assessment (mental skill questionnaire), objective psychological performance (sport-specific selective attention), and psycho-physiological data (biofeedback). This approach supports applied psychologists in designing suitable interventions, helps athletes to focus on their mental competencies, and leads to a deeper understanding of psychological processes in elite sports.

Sabine Würth & Verena Jandrasits present a German version of the Passion Scale in Sport, which will be implemented into the mental skill questionnaire in order to disclose specific motivational styles. Björn Krenn, Sabine Würth & Andreas Hergovich demonstrate how a sport-specific selective attention task may be used to identify the impact of feedback on decision behavior. In line with this research, Günter Amesberger & Sabine Würth discuss the influence of personality traits and mental skills on the effect of immediate positive and negative feedback on performance. The last presentation from Thomas Finkenzeller & Günter Amesberger gives an idea how sport psychological diagnostic and consulting are linked, and how athletes as well as coaches can benefit from sport psychology.

Passion in sport: development and validation of a German version of the Passion Scale in Sport.

Sabine Würth (Universitaet Wien, Department of Sport Science, Austria)

Verena Jandrasits (Universitaet Wien, Department of Sport Science, Austria)

Vallerand and colleagues (Vallerand, 2008) developed the dualistic model of passion in order to investigate two different types of a strong inclination towards activities, i.e. harmonious and obsessive passion. The passion scale consists of 16 items measuring three dimensions: the inclination toward a specific activity (passion criteria), harmonious and obsessive passion (Vallerand et al., 2003). Harmonious passion is said to go along with positive outcomes (flow, positive emotions, intrinsic motivation), whereas obsessive passion leads to feelings of being urged, and rather maladaptive outcomes.

Aim of our study was the development and validation of a German version of the passion scale in order to assess passion in sport.

The original 16-item scale was translated by three bilingual persons (forward - backward - forward) and distributed to 129 young German-speaking athletes (80 female, 45 male, 4 missing). After 42 days, post-test data of 63 athletes could be collected. For convergent and divergent validity reasons, conceptual similar constructs (flow, intrinsic motivation) as well as characteristic output correlates of harmonious and obsessive passion (positive and negative emotions) were assessed at pretest.

Results reveal a perfect replication of the three subscales (factor analysis) with internal consistencies ranging from Cronbach's alpha .76 and .84 and retest-stability of $r = .50$ to $.77$. Convergent and discriminant validity was confirmed by positive correlations of harmonious passion and intrinsic motivation, flow, and positive emotions during sport activity. Opposite correlations were found between obsessive passion and the aforementioned constructs.

Further results and practical implications will be discussed at the conference.

The impact of positive and negative feedback on decision behaviour.

Björn Krenn (Universitaet Wien, Faculty of Psychology, Austria)

Sabine Würth (Universitaet Wien, Department of Sport Science, Austria)

Andreas Hergovich (Universitaet Wien, Faculty of Psychology, Austria)

Feedback enables the comparison of an actual state and the desired state. Therefore, feedback interventions represent a common and very expansive incident in sport. Corresponding to the feedback intervention theory (FIT, Kluger & DeNisi, 1996) the characteristics of feedback interventions (e.g., positive or negative feedback) determine individual's decision behavior and, moreover, his or her performance.

In this regard, this experimental study aimed to investigate the impact of single and repeated negative as well as positive feedback on decision behavior. The participants ($N = 413$) underwent a sport-specific selective attention task consisting of two consecutive parallel tests on a PC. Embedded into two feedback loops, participants revealed manipulated positive or negative feedback on their performance. After each feedback intervention the following options to choose were presented: to raise the standard, to maintain the standard, to practice, to participate in an alternative test, and to abort. The choice differed corresponding to the feedback loop and the kind of feedback.

Results reveal that participants mostly raised their standard after positive feedback (175 vs. 32 who maintained the standard), whereas negative feedback mainly caused the decision to maintain the standard (179 vs. 26 who raised the standard). The repetition of negative feedback caused a significant increase of avoidance behavior.



The relevance of these results considering the theoretical framework derived from FIT will be argued. Additionally, the impact of the decision behavior following negative and positive feedback on the test performance of selective attention will be presented and discussed.

Effects of feedback on cognitive performance - a matter of personality traits?

Günter Amesberger (University of Salzburg, Department of Sport Science, Austria)

Sabine Würth (Universität Wien, Department of Sport Science, Austria)

Immediate feedback on performance in sport often aims on improving subsequent performance by enhancing athlete's motivation or make them focusing on task learning. However, if feedback should be positive or negative in order to alter performance behavior, depends on mental skills and personality traits like self regulation, locus of control or motivation (Kluger & DeNisi, 1996).

Our study aims on evaluating the effect of personality traits on cognitive performance under different feedback conditions. In an experimental study, $n=218$ high elite athletes (66 female, 158 male) underwent a computer-based cognitive performance task consisting of two parallel tests (PT). During the first test, immediate negative feedback was given on incorrect responses. During the second test, however, correct answers were provided with explicit positive feedback. Mental skills and personality traits were assessed via questionnaires.

Results show that explicit negative Feedback (PT 1) has only slight impact on athletes performance ($M = 3.28$, $SD=1.05$ correct answers after correct pre-trials vs. $M = 3.81$, $SD=2.54$ correct answers after negative feedback, $p=.08$). Explicit positive feedback (PT 2), however, leads to a significant increase of performance ($M = 5.44$, $SD=3.18$ correct answers after positive feedback vs. $M = 3.11$, $SD=1.12$ correct answers after incorrect pre-trials, $p<.001$).

Regression analyses reveal that performance in PT 2 after receiving positive feedback depends on a) performance in PT 1 and b) on self regulation competencies as well as low action orientation after bad performance.

Results will be presented in detail, and discussed in the light of theoretical frameworks and practical implications.

The influence of sport psychological consulting on mental skills of Austrian elite athletes.

Thomas Finkenzeller (University of Salzburg, Department of Sport Science, Austria)

Günter Amesberger (University of Salzburg, Department of Sport Science, Austria)

Psychological counseling that aims on the improvement of mental skills depends on the quality and adequacy of the applied intervention (Amesberger et al., 2010; Brand et al., 2010). This study evaluates three factors of psychological counseling on the improvement of mental skills over time:

1. Extent of the intervention (duration, number of sessions, free practice)
2. Athletes' belief in intervention success, athletes' training and competitive behavior
3. Intervention issues (e.g. concentration)

A quasi-experimental design was conducted to assess mental skills before and after a sport psychological intervention program (interval: $M = 317.28$ days; $SD = 110.53$). A sample of 106 athletes (age: $M = 23.78$; $SD = 5.68$) completed a questionnaire on mental skills and attitudes (Finkenzeller et al., 2008). RM-ANOVA's with the factor time and the factors of psychological counseling were calculated.

Results reveal that the extent has no impact on mental skills over time. Significant interactions between athletes' belief of intervention success and time occur in concentration, self-regulation and process goals. Moreover positive changes in athletes' competitive behavior go along with significant lower levels of fear of failure in competition and of fatalistic locus of control. Significant interactions of intervention issues (i.e. achievement goal, cognitive strategy, emotion regulation, relaxation/activation, career planning and dealing with injuries and psychological stress) and time are obtained for a number of mental skills.

Results will be discussed in respect of individual differences and situational conditions of counseling elite athletes.



New trends in the career transition research.

Organizer: Natalia Stambulova (Halmstad University, Sweden)

Discussant: Paul Wylleman (Vrije Universiteit Brussel, Belgium)

This symposium covers new trends in the European research on career transitions that are based on a holistic lifespan perspective in understanding athletes' development, "which spans the athletic and post-athletic career and which includes transitions occurring in the athletic career as well as those occurring in other domains of athletes' lives" (Wylleman, Alfermann, & Lavallee, 2004: 7). The holistic lifespan perspective embodied in the developmental model (Wylleman & Lavallee, 2004) has led the transition researchers to accept a holistic view of an athlete as a person doing sport and other things in life. This symposium will follow the whole topic reorganization due to reappraisal of athletes' transitions from the holistic lifespan perspective. The symposium will be opened by a meta-review of the career transition topic and analysis of the major shifts in career research during the last decade. The second presentation will be focused on psychological competencies and skills that enable athletes to adjust successfully to the challenges of within-career transitions. The third presentation will deal with athletic retirement decision-making and related processes. The fourth presentation will compare prospective and retrospective views of athletic retirement and post-career adaptation in the same group of Olympic athletes with ten-year period in between. In the fifth presentation the authors will share their new ideas with regard to further validation and development of the developmental model of transitions faced by athletes.

Major trends in the career transition topic: a meta-review.

Natalia Stambulova (Halmstad University, Sweden)

Ten review-type publications on athletes' career transitions were selected to provide a meta-review of the topic (Alfermann & Stambulova, 2007; Gordon, Lavallee, & Grove, 2005; Hackfort & Huang, 2005; Lavallee & Wylleman, 2000; Petitpas, Brewer, & Van Raalte, 2009; Stambulova, 2010; Stambulova, Alfermann, Statler, & Côté, 2009; Taylor & Ogilvie, 2001; Wylleman, Alfermann, & Lavallee, 2004; Wylleman, Lavallee, & Alfermann, 1999). Summarizing these papers, an evolution of the career transitions topic in sport psychology can be described through the following shifts: (1) from defining a transition as an event to seeing it as a process, (2) from perceiving athletic retirement as a social death to seeing it as a social rebirth, (3) from particular focus on athletic retirement research to the holistic lifespan perspective in studying athletic and non-athletic, normative and non-normative transitions, (4) from theoretical frameworks developed in other disciplines to frameworks specific to sport, (5) from career description to explanation of a transition process, and then to career assistance interventions and programs, and (6) from perceiving a body of career transition knowledge as universal to more culturally informed career research and interventions. The current status of the career transition topic is characterized by: (a) sport-specific definitions of key concepts, (b) classifications of athletes' transitions, related theoretical frameworks, and interventions, (c) holistic lifespan perspective and a solid body of knowledge about athletes' transitions and factors involved; (d) professional practice experiences accumulated in career assistance programs, and (e) principles, values, strategies, etc., integrated into the professional culture of career assistance.

Negotiating transitions: equipping athletes for challenges and choice.

Aine MacNamara (Institute of Coaching and Performance, University of Central Lancashire, UK)

Although the talent/career development process has been usefully segmented into different stages of development (e.g., Côté & Hay, 2002), successfully negotiating transitions between stages might determine long-term athletic success to a greater extent than how athletes perform during the stages themselves. Of course, lifelong participation in sport can take many forms and the lifelong aspect will necessitate a relatively fluid movement between these forms throughout the span. Given this complexity, it seems likely that a range of psychological factors underpin an athlete's ability to translate potential into top-class performance and / or to maintain lifelong participation in sport and physical activity. Empowering individuals with the choices and abilities to move between these stages and negotiate key developmental transitions should be the ultimate aim of development models in sport. The purpose of this paper was to identify the psychological skills that enable athletes cope with the challenges they face during within-career transitions. Specifically, the investigation focused on the possession and deployment of Psychological Characteristics of Developing Excellence (PCDEs,



MacNamara, Button, & Collins, 2010) as skills which have been previously proposed to facilitate progression. A case is made to include PCDEs in talent/career development initiatives so that aspiring elites develop these skills in advance of meeting key challenges and transitions of development, thus smoothing the pathway to success and reducing the incidence of dropout.

Exploring the retirement from sport decision-making process: a focus group study.

Sunghee Park (University of Stirling, UK)
David Lavalley (University of Stirling, UK)
David Tod (Aberystwyth University, UK)

The purpose of this study was to explore the retirement from sport decision-making process. The transtheoretical model of behaviour change, which has helped better understand the decision-making process in other areas, was used as a guiding framework in this study. A total of 12 participants took part in one of three focus groups (four current players; five retired players; three coaches) which focused on athletic identity, coping strategies and the coach-athlete relationship. All participants (seven males & five females; mean age 31.25 ± 3.49 years) were either current or former Korean elite level tennis players. Data were thematically content analysed, and the transtheoretical model was used to interpret the findings. Results showed three themes: (a) readiness for sport career end (e.g., perceived gains and losses associated with decision to retire), (b) psychological and emotional responses during the decision-making process (e.g., self-re-evaluation), and (c) coping strategies (e.g., social support). Results indicated that athletes' sport career end decision-making is a dynamic process, which is accompanied by various emotional responses requiring different coping strategies. In addition the findings indicated that the transtheoretical model was helpful in explaining athletes' retirement from sport decision-making. For example, results revealed the influence of athletes' readiness for facing post-sport life on their actual retirement decision.

A follow-up study of retirement from elite athletic career.

Miquel Torregrosa (Universitat Autònoma de Barcelona, Spain)
Susana Pallarés (Universitat Autònoma de Barcelona, Spain)
Fernando Azocar (Universitat Autònoma de Barcelona, Spain)
Yago Ramis (Universitat Autònoma de Barcelona, Spain)
Clara Selva (Universitat Autònoma de Barcelona, Spain)

The objective of this work is to complete a follow-up study with regard to the previous study initiated in 1999 (Torregrosa, Boixadós, Valiente, & Cruz, 2004) in which 18 Olympics athletes were interviewed on their prospective views of competitive sports career and future retirement. A decade after, all of them have passed through the transition from elite competitive sports to an alternative professional career, and in the follow-up study they could provide retrospective views to be compared with the prospective ones. Fourteen athletes (5 women and 9 men) agreed to participate in the follow-up study. Individualized semi-structured interview guides following the re-analysis of the first set of interviews were used. The interviews were recorded and transcribed verbatim. The data was structured based on the analysis of experiences associated with athletic, psychosocial, and academic-vocational levels of development. In the athletic level most of the athletes reported transitions as being harder than they predicted but almost all of them remained in sport after retirement. In the psychosocial level there were a variety of experiences with the common need of an adaptation period (not predicted in the prospective view). In the academic-vocational level they were satisfied with their jobs (as was predicted). Most of the interviewed athletes reported that their prospective views did not predict accurately what happen in all the levels, but the fact of having a plan helped them to better cope with retirement and the transition to an alternative professional career.

Development and validation of the developmental model: a qualitative analysis of former elite athlete.

Anke Reints (Vrije Universiteit Brussel, Belgium)
Paul Wylleman (Vrije Universiteit Brussel, Belgium)

Introduction. In order to gain insight into athletes' athletic career transitions, an understanding is required of other developmental transitions as well. Recognizing the need for a holistic approach, the developmental model



(Wylleman & Lavallee, 2004) complements athletic career stages with stages at athletes' psychological, psychosocial, and academic/vocational development. The purpose of this study is to optimize this model by suggesting modifications which detail athletes' career development more fully.

Method:

Using both inductive and deductive content analysis, 24 former elite athletes were interviewed. Data analysis was conducted using NVivo 8 (Qualitative Research Solutions International, 2000).

Results:

While all the transitions as described in the model took place, results revealed specific needs for more detail. For example, at athletic level, the transition into the mastery stage could be divided into two stages (into senior level and integration at senior level), and the discontinuation stage into four stages. At psychological level, results revealed that the stage of childhood and adolescence could both be divided into two stages (early/late childhood and early/late adolescence). No further specifications were required at psychosocial and academic/vocational level. Finally, two new developmental levels were inductively derived: the physical and financial level of development.

Conclusion:

Qualitatively testing of Wylleman and Lavallee's model resulted in a further specification of two levels of development and of the importance of transitions faced at the physical and financial level of development.

Good research - good publication?

Organizer: Roland Seiler (University of Berne, Switzerland)

Discussant: Roland Seiler (University of Berne, Switzerland)

Publishing research is the endpoint of the research process. An increasing number of sport psychology journals offer a platform to submit manuscripts to the peer review procedure. A high rejection rate is considered to be a quality label reflecting the scientific standard of the respective journal. Researchers often experience a long and sometimes frustrating time when trying to get a paper published. This is especially true for young scientists from non-English speaking countries. At the dawn of their scientific career, with their first independent research project and data, they are urged to have a certain number of publications to get their PhD. A number of more or less negative or constructive comments need to be considered, data re-analysed and parts of the manuscript redrafted, and still the manuscript may finally be rejected. It may be suspected that some of the manuscripts are rejected because they are not related to a generally accepted theoretical framework or methodological procedure.

The purpose of this symposium is to have a critical look behind the process a manuscript undergoes from the first draft until its publication. Potential biases are analysed and ways to overcome them are discussed including the perspective of European sport psychology traditions.

Quality criteria of scientific journals: impact factor and other measures.

Dorothee Alfermann (University of Leipzig, Germany)

In this contribution, the indices to evaluate the quality of a scientific journal are discussed. The most popular index, the Impact Factor (IF) is calculated as the ratio of the number of articles of a journal that are cited in the last 2, 3 etc. years compared to all published articles of that journal in the same time period. The IF thus tells something about the impact of the journal on the scientific community, however, IF does not say anything about the author's impact! But the probability to get recognition from the scientific community is higher with a publication in a higher IF journal.

IF can be increased by

- the number of review articles and meta-analyses (e.g. Psychological Bulletin)
- size of the Community (very important), e.g. IF of medical journals is in the average higher than IF of psychology journals
- age of the journal.

For evaluating a journal, some more figures than just IF may be helpful: IF's of comparable journals (ranking), number of published articles per journal per year, number of submitted articles per journal per year, rejection



rate, half-life of cited articles, percent of non-cited articles.

Publish or Perish? Research should be published because the public has a right to learn about and from research results. In addition, career chances, chances for getting funding etc. depend on publications!

Apart from IF, additional measures should be considered. More information is given in the symposium.

Publication biases and the advancement of sport psychology.

Roland Seiler (University of Berne, Switzerland)

For the academic career of individual sport psychologists publishing research results is absolutely necessary. The result is an ever increasing number of publications in specialised journals competing for contributions, recognition, Impact Factor, and economical benefit. The question remains whether the published knowledge is really worth knowing or, to cite APA's publication manual, "makes an original, valid and significant contribution to an area...". The academic community is coming to an oversaturation of information, and it is becoming more and more difficult to identify what really advances our understanding on a given subject in a scientific field.

Peer review procedures have been established as a control mechanism that guarantees the methodological scrutiny and the novelty of the manuscript. Some observation, however, show that the procedure is not as impartial as one would assume. One critical issue is the potential language bias of editorial boards and reviewers, which is often also related to a theoretical restriction. This not only reduces the chance of non-English speaking authors to get their paper published, but also leads to a reduction of scientific approaches and theories. There is concern that, in the long run, an impoverishment of sport psychology theory will result.

How to play the publication game.

Glyn C. Roberts (Norwegian School of Sport Sciences)

Experiences in sport and social inclusion, from a psychosocial perspective.

Organizer: Jordi Segura (Universitat Ramon Llull, Spain)

Discussant: Jordi Segura (Universitat Ramon Llull, Spain)

Social Inclusion is defined as the process that ensures that all the people can have opportunities and resources, with living conditions and welfare in normal society they're living. Social inclusion is often view as a sociological strategy to cope social exclusion. We think it's necessary to propose also a positive outlook from social psychology. In both directions sport has an important role in order to achieve social inclusion. The European Commission considered the importance of the sport in order to get the social inclusion: "it's important to promote an inclusive approach to sport; all residents in European Union should have access to sport; the specific needs of under-represented groups need to be addressed" (EC - Social Inclusion, integration and equal opportunities - Sport has a major potential as a tool for promoting social inclusion and social cohesion in European societies" (oct, 01, 2009). Also, the Amsterdam Treaty emphasizes "the social significance of sport, in particular its role in forging identity and bringing people together". It's demonstrated the effectiveness of physical activity and sport to develop social inclusion: in the educational domain (Bailey 2005, Dagkas and Armour 2011) or in the leisure domain (Liu 2009). It's necessary take up the psychosocial point of view. In this symposium we want to present various sport experiences in several domains, from the perspective of the social psychology of sport.

An action-research experience to promote inclusion in sport federations.

Jordi Segura (Universitat Ramon Llull, Spain)

Josep Oriol Martinez (Universitat Ramon Llull, Spain)

Myriam Guerra (Universitat Ramon Llull, Spain)

In EU the development of policies for the inclusion of people with disabilities is a priority. Competitive sport is an important agent to achieve social inclusion targets. In Spain, the Consejo Superior de Deportes proposed in 2009 the "Plan Integral para la Actividad Física y el Deporte" to be developed in 2010-2020 period. Two of the objectives of the "Plan" were promote sport for disabled people and groups at risk of social exclusion.



Also, since the first "Conferencia Nacional de Deporte Adaptado" (Toledo 2009), there's a plan to promote the integration of disabled athletes in the sport structure standart, The plan is promoted by the Consejo Superior de Deportes and the Comité Paralímpico Español, with the collaboration of some sports federations. Several sports federations have experience in integration, others have not yet started. The experience supposes a big change: politic, legal, organizational and psychological. We present an experience of intervention which aims to encourage and facilitate the inclusion. The project is based on psychosocial science. The objective is to build new knowledge, beginning from current believes and social representations of athletes with disabilities, disability and adapted sports. The methodology is action-research and focus group, where coaches, managers and athletes, coming or not from adapted sports, participate in supervised group meetings in order to improve significant changes and inclusive attitudes.

Quality of life, health habits and physical activity in people with intellectual disability.

Maria Carbó (Universitat Ramon Llull, Spain)

Climent Giné (Universitat Ramon Llull, Spain)

Social inclusion is within the aspects to be considered related to the quality of life (QoL) of the people with intellectual disability (ID). When increasing the self-esteem and, consequently, when facilitating the interpersonal relations with their peers and family, these people feel part of the society. Physical activity (PA) provides them a direct inclusion in society, allowing them to enjoy a normalized activity and establishing relations with their environment. **OBJECTIVE:** The main objective of this project is to know how health habits and the level of the practice of PA of people with ID impact in their QoL, and moreover identify the support needs in the area of health habits to improve their functioning. **METHOD:** First, we want to design a questionnaire about health habits and PA. Then we'll apply this questionnaire and the Personal Outcomes Scale (about quality of life) in the same sample. All of them volunteered and previously signed an informed consent. Finally we'll analyze the reliability and validity of the questionnaire of health habits and contrast the results using structural equation model. **RESULTS:** Data will be collected to establish the criteria for elaborate individualized support plans for people with ID.

Sport projects promoting youth social inclusion: the case of Polisportiva Laureus.

Chiara D'Angelo (Università Cattolica del Sacro Cuore, Italy)

Emanuela Confalonieri (Università Cattolica del Sacro Cuore, Italy)

Elisa Guidotti (Università Cattolica del Sacro Cuore, Italy)

Polisportiva Laureus is a project by Laureus Italia Foundation promoted in the city of Milano. The project is addressed to young people (from 6 to 17 years old) living in the suburbs in disadvantaged economic situations. In this way sport becomes a tool of intervention in the social work with young people to promote wellness and prevent degenerative behaviors and the risk of social exclusion. In addition to this, the project Polisportiva aims also to trigger off positive changes into the community in which activities are proposed.

The following work firstly aims to present the project organization, which consist of specific sport training sessions (such as football, volleyball, basketball and rugby) and fringe psycho-pedagogical activities (during group sessions). Each team is monitored by a staff composed by a trainer, an educator and a psychologist. They work together in order to promote sport activities using a specific psycho-pedagogical focus. They also work strictly connected with the local educational services that are supporting young people of the project in other areas (school, family, medical assistance, etc.) .

In collaboration with Catholic University it has been planned a longitudinal multi-method research design in order to understand if taking part at the Polisportiva promote social inclusion and how it happens. Some outcomes of this research represent guidelines for the staff who daily works with young people, for this reason they will be presented.

Finally critical issues and potentialities of the project will be highlighted to open up to new evolutions.

Sport, social inclusion and community development: an experience in Cape Town (South Africa).

Caterina Gozzoli (Università Cattolica del Sacro Cuore, Italy)

Ricardo Sánchez (Universitat Ramon Llull, Spain)

This presentation analyzes an experience that uses the sport and physical activity as a tool for social



inclusion and community development. The project is carried out in the neighborhood of Manenberg in Cape Town (South Africa) and it was born from the collaboration between several partners: the Foundation Champions for Children, the Catholic University of Milan, the Ramon Llull University of Barcelona, and a local network. The project consists in the construction and management of a Playground, a socio-field sports, which has become a community gathering point. A multipurpose facility that, through sports activities, becomes a space to develop social networking community.

In the first part of the communication will provide data that can shape the social demographic, cultural and economic situation of Manenberg district, establishing most relevant social issues. The second part shows the theoretical and methodological frame of the project. Thirdly, a protocol of co-action with local partners. Finally, it will show some results and reflects on strengths and limits of this project.

Student-athletes' psychological experiences in Taiwan.

Organizer: Frank J.H. Lu (National Taiwan Sport University, Taiwan)

Discussant: Likang Chi (National Taiwan Normal University, Taiwan)

This symposium synthesizes four studies regarding to student-athletes' psychological experiences, including life stress assessment, psychology of injury, achievement motivation and sportspersonship, and career transition in Taiwan. In term of life stress assessment, Eva Hsu presents the initial measurement development of a sport-specific life stress for student-athletes by qualitative study, item discrimination, EFA, CFA and convergent-divergent validity analysis. As to Frank Lu, he adopts Wiese-Bjornstal's model (1998) to examine the joint contribution of trait hope and social support in predicting injured athletes' rehabilitation beliefs, psychological well-being and rehabilitation behavior. Third, Chan S.W. reports how paternalistic leadership, a prevalent leadership style on non-Western regions, moderates the relationship between achievement goals and sportspersonship. Finally, Joe Nien uses a whole person, holistic, lifespan, multi-level approach (Wylleman, Lavalle, & Alfermann, 1999) in explaining different patterns of individual factors and situation factors between junior & senior high school students. We welcome 2011 FEPSAC participants to join our symposium and discuss related issues.

Assessing college student-athletes' life stress: initial measurement development and validation.

Eva YW Hsu (National Taiwan Sport University, Taiwan)

Frank JH Lu (National Taiwan Sport University, Taiwan)

The purpose of this study was to develop a reliable and valid measure to assess college student athletes' life stress. First, a qualitative study was conducted that included in-depth interviews (8 college student athletes) and focus group discussions (8 parents, 8 experts, and 8 sport psychology consultants). Eight dimensions were identified including training adaptation, sport injury, competition, friends, parents, coaches, academic pressure, and relationship perplexity. Then in quantitative stage, we generated an item pool based on qualitative stage and made a College Student-Athletes' Life Stress Scale (CSALSS) draft. Through the content validity assessment, Cronbach's α , exploratory factor analysis (EFA) and item discrimination analysis (Phase I, $n = 313$), the CSALSS with proper initial properties was produced. Following the phase I, this study further examined the construct validity of the CSALSS (Phase II, $n = 281$). Using Pearson Correlation and confirmatory factor analysis (CFA), the CSALSS showed adequate factorial stability and convergent-divergent validity. The results of both qualitative and quantitative study indicated that this new measurement, the CSALSS (25 items and 8 dimensions), has valid psychometric properties. This study covered a void part of the sport psychology measurement, and provided an effective tool both for theoretical testing and practical counseling use.

Influence of hope and social support on injured athletes' subjective well-being and rehabilitation beliefs.

Frank J. H. Lu (National Taiwan Sport University, Taiwan)

Eva YW Hsu (National Taiwan Sport University, Taiwan)

By adopting positive psychology perspective (Snyder & Lopez, 2002), the purpose of this study was to examine injured athletes' trait hope and perceived social support on their subjective well-being and rehabilitation beliefs. Using judgment sampling, this study sampled 229 injured college athletes administered



with demographic questionnaire, Trait Hope Scale (Snyder, 1999), Social Support Scale (Lan, 2007), Satisfaction with Life Scale (Wu & Yao, 2006), Positive and Negative Affective Scale (Wu, 2001), the Sport Injury Rehabilitation Beliefs Scale (Taylor and May, 1996), and the Sport Injury Rehabilitation Adherence Scale (Brewer, Van Raalte, & Petitpas, 2000). Correlation Analyses found most variables significantly correlated except negative emotions. Also, hierarchical regression found there is no interaction between trait hope and social support on dependent variables (i.e., subjective well-being and rehabilitation beliefs). However, it was found both trait hope and social support jointly predicted 23% of rehabilitation beliefs, and 21.9% subjective well-being. This study suggested that sports professionals and athletic trainers should foster injured athletes' social support and trait hope so to promote their global well-being.

Interactive Effects of Paternalistic Leadership on the Relationship between Achievement Goals and Athletes' Sportspersonship.

S.W. Chan (National Taiwan Sport University, Taiwan)
Frank J.H. Lu (National Taiwan Sport University, Taiwan)
Eva Y.W. Hsu (National Taiwan Sport University, Taiwan)
J. M. Chen (National Taiwan Sport University, Taiwan)

Paternalistic leadership is a prevalent leadership style on non-Western regions such as Asia, Middle East, and Latin American, and is characterized by three types of leadership: authoritarianism, benevolence, and morality. This study examined how paternalistic leadership moderating the relationship between achievement goals and athletes' sportspersonship. Taiwanese intercollegiate athletes ($n = 252$; males=169; females=83; with mean age of 20.91 ± 1.63) completed the Paternalistic Leadership in Sport Questionnaire (PLSQ, Kao, 2001), Achievement Goal Orientation in Sport Questionnaire (AGOSQ, Chen, 2009), and Multidimensional Sportspersonship Orientation Scale (Vallerand, Briere, Blanchard, & Provencher, 1997). Hierarchical regression analyses revealed that morality leadership moderated the relationship between ego orientation and sportspersonship; also, the authoritarianism leadership moderated the relationship between social orientation and sportspersonship as well as the relationship between ego orientation and sportspersonship. The results suggest that paternalistic leadership may be a potential research alternative for researchers in examining coach-athletes relationship and athletes' behavior.

Bridge over trouble water: Transition of high school student-athletes.

Chiao-Lin Nien (National Taiwan College of Physical Education, Taiwan)

Athletes career transition is one of the most popular subject in the sport psychology literature. It has been studied since 1960 and recently a whole person, holistic, lifespan, multi-level approach (Wylleman, Lavalle, & Alfermann, 1999) has been proposed. The present study was aimed to examine the athletes career transition issues based on both social cognitive approach and multi-level transition model to investigate personal factors such as achievement goals and motivation regulations and situational factors (for example, motivation climate and autonomy support) to influence how athletes coping and attention of drop-out. In addition, a perspective approach were proposed to examine the dynamic of how student-athletes and athletes used to be differentiated in the way of how they feel, act, thoughts of their latter life after a critical transition period. This study expected to find different pattern of individual factors and situation factors between junior and senior high school students.

Life stressors and psychological intervention: a case study of an elite Taiwanese youth athlete in the U.S.

Hain-Ni Peng (National Taiwan Sport University, Taiwan)
Likang Chi (National Taiwan Normal University, Taiwan)
Chiung-Huang Li (Ming Chuan University, Taiwan)
Chih- Shien Yeh (Fu Jen Catholic University, Taiwan)

The purposes of this case study were to (1) investigate and determine sources of life stress during practice and competitions experienced by an elite Taiwanese youth athlete living in the U.S. and (2) evaluate the effectiveness of counseling and mental skills training implemented on this Taiwanese youth athlete. Sources of stressors were obtained and identified reflecting stressful events and factors, such as cultural difference,

language, parents' expectation, coaches, and sport performance issues. Related counseling skills and mental skills training were then implemented, such as Rational Emotive Behavior Therapy (REBT), goal setting, relaxation, focus plan, confidence, and imagery. Evaluation of the sport psychology consultant's effectiveness was also examined at the termination stage. Results showed that this elite Taiwanese youth athlete experienced growth, better well-being, and success in life as well as sport performance.





Symposium Session 8 | Saturday, July 16th | 14:30-16:00

Injury, prevention and rehabilitation in exercise and sport.

Organizer: Urban Johnson (Halmstad University, Sweden)

Discussant: Leslie Podlog (Texas Tech University, USA)

It is important to understand the psychosocial mechanisms underlying susceptibility to injury in sport settings because of the potential to enhance well-being at the individual level and reduce economic costs for society. Likewise, it is vital to understand psychosocial factors influencing injury rehabilitation among adolescent and senior athletes. Altogether five studies will be presented in this symposium. In a longitudinal and prospective study, Ivarsson et al recorded injury occurrence among elite soccer players. Findings suggest a model in which daily hassles mediate a relationship between anxiety, negative life event stress, social worry and injury accounting for 24% of the variance in injury frequency. Tranaeus & Johnson reported several findings in regards to experience of psychosocial risk factors preceding overuse injury among elite floorball players. For instance, a number of players stated concerns in the private life just prior to the occurrence of injury. While Klienert report significant interactions between psychosomatic complaints and the occurrence of severe injury during tournament among female soccer players, Shipherd et al analysis of the relationship between conformity to the sport ethic and injury in adolescent athletes revealed athletes scoring higher in sport ethic conformity reported incurring a significant great number of injuries than their peers. In the final study Podlog et al reports about self presentation concerns and risky rehabilitation among adolescent athletes. Findings suggest that athletes with greater self-presentational concerns may be more likely to engage in risky rehabilitation behavior. Practical implications for athletes, coaches and sport psychology practitioner will be discussed.

Psychological predictors of injury occurrence: a prospective investigation of competitive swedish soccer players.

Andreas Ivarsson (Centre of Research on Welfare, Health and Sport, Halmstad Univeristy, Sweden)

Urban Johnson (Centre of Research on Welfare, Health and Sport, Halmstad Univeristy, Sweden)

Involvement in competitive soccer is associated with high injury rates (Hägglund, 2007). In an attempt to identify psychosocial injury risk factors, several conceptual models have been developed, for example, Williams and Andersen Stress Injury Model (1998). The aim of the present study was to prospectively examine whether personality variables, stress and coping styles predicted injury occurrence in an elite soccer population. Fifty six soccer players competing in the Swedish Premiere Division completed four questionnaires prior to the start of the competitive season. These included: the Swedish University Scale of Personality, Life Events Survey for Collegiate Athletes, Football Worry Scale, and Brief COPE. Subsequent to the initial data collection, participants completed the Daily Hassle and Uplift Scale, once per week for a 13-week period, and all injuries requiring a minimum 1-day absence from competition were recorded by team physiotherapists. A path analysis was conducted to investigate the influence of specific personality (e.g., somatic trait anxiety), stress and coping variables on injury frequency. Results suggest a model in which daily hassles mediate the relationship between anxiety, negative life event stress, social worry and injury, accounting for 24% of the variance in injury occurrence. This finding supports previous research highlighting the role of anxiety and chronic stress in injury vulnerability (Johnson & Ivarsson, in press). Findings suggest the need for players, coaches and physiotherapists to address both major negative life events and daily hassles in minimizing injury risk. It is also recommended that coaches develop individualized stress monitoring programs for diminishing injury occurrence.

Psychological factors and overuse injuries in floorball.

Ulrika Tranaeus (Centre of Research on Welfare, Health and Sport, Halmstad Univeristy, Sweden)

Previous research has shown that the risk of traumatic and/or overuse injury occurring in competitive floorball is relatively high during a playing season. Most injuries occur because the athletes are exposed to a combination of extrinsic and intrinsic risk factors such as physiological and psychological situations. The aim of this study is to describe athletes' experience of psychosocial risk factors preceding overuse injury. A qualitative study was conducted using a semi-structured interview guide and based on nine diagnosed and



presently overuse injured men in the premier league floorball in Sweden during 2010. To uncover the underlying meaning in the transcribed interviews, a thematic content analysis was used. Several themes emerged in the data. Four of the main themes were: a) players experienced pain while competing and faced difficulties to separate normal/daily pain as warnings signals of an injury, b) both key-players and other players feared losing their position during rehabilitation time, c) a number of players stated concerns in the private area (partners) at the time the injury occurred, d) some athletes experienced an understanding communication climate within the team whilst others reported no acceptance from coaches when complaining about pain. The results from this study might explain why overuse injuries were sustained during all phases of the season, including preseason. It is further speculated that periods of rest and/or rehab during the injury period might lead to players experiencing mental pressure. Implications of the results will be discussed with athletes, coaches and sport psychology practitioners.

Psychosomatic complaints and the risk of injuries.

Jens Kleinert (German Sport University Cologne, Germany)

Background: Psychosomatic complaints can be hints for stressful live events or daily stressful situations which overstrain resources of a person. Considering a stress injury model, these complaints therefore should contain a higher risk for injuries in sport. Our prospective study aimed to find out, whether and which sort of psychosomatic complaints are related with the occurrence of an injury in sport competition. Procedure: The participants of the present study are 990 female soccer players aged 13 - 20 ($M = 16.2$; $SD = 1.9$). All players are members of a German state elite team in the age groups under 15, 18 or 21 years (teams U15, U18, U21). Psychosomatic complaints were assessed at the beginning of a three-days-tournament using a 23-item list (Zerssen & Stieglitz, 2002) which contains emotional symptoms, exhaustion, and peripheral nervous symptoms. Injuries were self-reported by the players at the end of each day defining serious injuries as causing withdrawal from the entire tournament, medium injuries withdrawal from only the current match and light injuries as injury incidences with no break-off. Results and discussion: We found significant interactions between psychosomatic complaints and the occurrence of a severe injury during the tournament. 78.4 % respectively 64.9 % of injured athletes reported exhaustion respectively peripheral nervous symptoms before the tournament whereas 42.2 % respectively 46.4 % of non-injured athletes reported complaints. These results have to be discussed in the light of both, psycho-physiological mechanisms of severe injuries and biographical sources of psychosomatic complaints.

No pain, no gain: over conformity to the sport ethic among adolescent athletes and injury.

Amber M. Shipherd (Texas Tech University / The Florida State University, USA)

Robert C. Eklund (The Florida State University, USA)

Elite athletes are often regarded as heroes for competing while injured. Even fourth grade athletes have been reported to be willing to accept pain and injury as inevitable outcomes of playing sports, and to continue playing through pain and injury (Singer, 2004). Over conformity to the sport ethic can include behaviors such as: risking injury or prolonged illness to compete, playing through pain, inclinations to avoid medical attention, or seeking to win regardless of physical costs (Hughes & Coakley, 1991). The purpose of this study was to investigate the relationship between conformity to the sport ethic and injury in adolescent athletes. Male ($n = 98$) and female ($n = 105$) athletes between the ages of 13 and 18 in a small southeastern US city provided demographic, sport and injury history and Sport Attitudes Questionnaire (SAQ) data for this study. The SAQ was developed for this investigation to measure extent of conformity to the sport ethic. Exploratory factor analysis revealed three SAQ factors with eigenvalues exceeding 1.0. One factor exhibited low internal consistency and hence was omitted from further analyses. The two remaining factors related to: a) the meaning of being an athlete (SAQ-MA), and b) playing regardless of the costs (SAQ-PC). Data analysis revealed athletes scoring higher in sport ethic conformity reported incurring a significantly greater number of injuries ($m=2.02$) than their peers ($m=.80$) who scored lower in sport ethic conformity ($p < .05$). Implications of these results for athletes, coaches and sport psychology practitioners will be discussed.



Self presentation concerns and risky rehabilitation behaviors among adolescent athletes.

Leslie Podlog (Texas Tech University, USA)

L. Kenow (Texas Tech University, USA)

K. L. Colvin (Texas Tech University, USA)

M. Granquist (Texas Tech University, USA)

U. Johnson (Centre of Research on Welfare, Health and Sport, Halmstad University), Sweden

Self-presentational concerns have been shown to predict a range of health damaging behaviors in a variety of life domains (Martin Ginis & Leary, 2004). The purpose of this study was to examine the relationship between self-presentational concerns and injured athlete health-risk behaviors (e.g., overdoing rehabilitation). Data with currently injured US adolescent athletes ($n=90$) competing in a range of high school sports was obtained. Self-presentational concerns about appearing athletically untalented (AAU), physical appearance (PA), fatigued/lacking in energy (FLE), and mental composure inadequacies (MCI) were assessed using the 21-item Self-Presentation in Sport Questionnaire (SPSQ; McGowan, Prapavessis, & Wesch, 2008). Injury risk behaviors were measured using the Rehabilitation Behaviors and Beliefs Questionnaire (RBBQ) and a modified version of the Injury Psychological Readiness to Return to Sport Scale (I-PRRS; Glazer, 2009). As the RBBQ was a novel instrument, an exploratory factor analysis (EFA) was conducted. EFA results indicated two distinct interpretable factors with eigenvalues exceeding 1.0: rehabilitation behaviors (RBBQ-RBH, $\lambda=.80$) and rehabilitation beliefs (RBBQ-RBL, $\lambda=.78$). Subsequent correlational analysis revealed significant small to moderate correlations between AAU, MCI and the RBH factor ($r = .29-.30, p < .01$). Finally, linear stepwise regression analyses indicated that AAU predicted 9.2% (8.2% adjusted) of the variance in risky rehabilitation behaviors (RBBQ-RBH; $\beta = .304, p < .01$). These findings suggest that athletes with greater self-presentational concerns may be more likely to engage in risky rehabilitation behaviors. Minimizing concerns about appearing athletically untalented may be important for preventing risk behaviors that increase the subsequent likelihood of reinjury and diminished post-injury performance.

Towards optimal psychosocial environments in youth sport.

Organizer: Chris Harwood (Loughborough University, UK)

Discussant: Moira Lafferty (University of Chester, UK)

The purpose of this symposium is to draw together current research in the fields of positive youth development and performance environments in youth sport in order to illustrate the range of mechanisms underpinning optimal psychosocial development in young athletes. The opening presentation focuses on the development environment in elite youth soccer academies, and the strategies and values that underpin player development from coaches' perspectives. This theme is neatly progressed by a quantitative investigation into coaches' attitudes towards developing key psychosocial assets in youth swimming, including their levels of attention to each asset and perceived barriers to development. The third presentation focuses on parental influence by integrating findings from a series of recent studies of children's perceptions of preferred parental behaviours in youth soccer and tennis environments. The parental role is then explored in further detail by an in-depth qualitative investigation into parents' perceptions of their roles in youth soccer academies. In this final study, role theory is employed as the framework for understanding how parents' role clarity, role confidence, and role satisfaction may influence their behaviours and interactions with their child in a youth sport setting. In summary, the symposium offers 'integrated' insights into how the beliefs and behaviours of key social agents can impact on the potential quality of the psychosocial environment in youth sport. Further research recommendations and practical implications for sport psychologists and coaches will be offered throughout the symposium.

Creating effective development environments within elite English football academies.

Andrew Mills (Sheffield Hallam University, UK)

Ian Maynard (Sheffield Hallam University, UK)

Joanne Butt (Sheffield Hallam University, UK)

Chris Harwood (Loughborough University, UK)

An inspection of the sport psychology literature suggests that the development of talented athletes is a



dynamic manifestation involving a complex choreography of intrapersonal and environmental factors. Despite the notion that the environment in which the athlete finds themselves in is considered to be the most controllable factor in the development process (Martindale et al., 2007: *Journal of Applied Sport Psychology*, 19, 187-206); research concerning the creation of effective development environments is relatively scarce, especially within sport specific settings. To this end, the aim of this presentation is to provide an overview of recent research geared towards obtaining a better understanding of the development environments of elite young footballers. The specific purpose of the research was to identify the strategies and mechanisms used by academy managers to create effective development environments within elite academies. The results identified a variety of methods that were employed to foster effective environments. Themes that emerged included consistency (e.g., having aligned staff behaviour); adaptability (e.g., embracing new ideas); empowerment (e.g., making players feel valued, promoting self awareness); involvement (e.g., share success/make every scholar feel part of the group); key stakeholder relationships (e.g., building rapport with parents); and player welfare (e.g., providing emotional and social support to players). Collectively, the findings suggest that the culture of the academy might be a key driver in establishing an effective development environment. From an applied perspective, this point towards the importance of establishing a high performance culture at youth academies. Further implications for applied practitioners will be discussed.

Coach attitudes towards and perceptions of positive youth development in swimming.

Julie Douglas (Loughborough University, UK)

Chris Harwood (Loughborough University, UK)

Antoinette M. Minniti (Nottingham Trent University, UK)

The primary objective of positive youth development is an individual's acquisition of internal assets (life skills) through their interaction with external assets (Benson, Leffert, Scales & Blyth, 1998). In sport, these external assets comprise primarily of parents and coaches, hence requiring coach and parent 'buy-in' to the principles of positive youth development. The objective of this study, therefore, was to survey British swimming coaches to ascertain their approach towards a number of psychosocial assets considered important for both positive youth development and performance enhancement in swimming. 181 British swimming coaches (123 males and 58 females) with a mean age of 40.29 years ($SD = 11.54$) completed an online survey. Coaches were asked to consider each of 17 psychosocial assets in relation to their beliefs about each asset, their current levels of behavioural engagement towards asset development, and perceived barriers to such engagement. Results revealed a lack of congruence in regards to the value of certain assets, particularly those concerned with emotional competence. Furthermore, in regards to all assets assessed, coaches reported valuing the assets and viewing their development as a part of their role as a coach as significantly greater than the amount of attention that they currently gave to their development. Time was found to be the most frequently cited barrier, perhaps explaining this lack of coherence between coach belief systems and behavioural engagement. Implications for coach education will be discussed alongside addressing future research directions.

Creating the optimal psychosocial environment for youth sport: the role of parents.

Camilla Knight (University of Alberta, USA)

Nicholas Holt (University of Alberta, USA)

This presentation will provide an overview of the role of parents in creating the optimal psychosocial environment for youth sport. While many parents are positively involved in youth sport, some parents are perceived as a source of stress and pressure by young athletes, especially at competitions. Through this presentation we will illustrate how parents can best be involved in youth sport to foster enjoyment and reduce feelings of pressure and anxiety in young athletes. First, we will provide an overview of two studies we conducted that examined athletes' preferences for parental behaviors at youth sports competitions. These studies illustrated the importance of parents being involved in sport in supportive ways, and highlighted specific ways that parents can display support. A third study, which examined the mechanisms underpinning optimal parental involvement in youth sport, will then be discussed. The results showed the importance of parents understanding and enhancing their child's sporting journey. To achieve this type of involvement, the findings suggested that parents need to maintain perspective, have shared and communicated goals with their child, understand the demands of the sport, and recognize the needs of their child. The presentation will conclude with a summary of the types of support and strategies parents may use to optimize their children's



experiences in sport. Implications for parents, coaches, and practitioners will be discussed.

Parents' role perceptions in youth football academies: a qualitative application of role theory.

Nicola Clarke (Loughborough University, UK)
Chris Harwood (Loughborough University, UK)
Ian Taylor (Loughborough University, UK)

Parents, through their behaviours and feedback, can either enhance or compromise the development of young athletes' psychosocial skills and achievements (Fredricks & Eccles, 2004). Whilst the effects of parental behaviours in sport have been investigated (e.g. Bois, Lalanne & Delforge, 2009; Lauer, Gould, Roman and Pierce, 2010), much less is known regarding the determinants of parental influence.

Recent literature on sport parents proposes the importance of their role as providers, interpreters and role models in relation to the quality of their child's participation and experiences in sport (Fredricks & Eccles, 2004). However, parents' beliefs about the role they play in supporting their child's development, their confidence in performing these roles and their feelings associated with this additional parenting responsibility may influence their behaviours. The present study therefore explored how parents of elite young footballers describe their experiences of and beliefs about being a sport parent.

A qualitative research design was employed to investigate role perceptions of mothers and fathers of boys registered to English professional football academies aged between 8 and 13 years. Using role theory as a framework, parents' role clarity, role confidence and role satisfaction were examined through a series of semi-structured interviews. The findings of this research will be presented alongside the implications for how role perspectives can help practitioners identify ways to support youth sport parents

Physical activity and mental health: facilitating behaviour change across different contexts, conditions, and participants.

Organizer: Adrian H. Taylor (University of Exeter, UK)
Discussant: Stuart Biddle (University of Loughborough, UK)

Evidence-based guidelines for treating mental health problems such as depression with exercise have been mostly based on interventions involving structured programmes, with a dose appropriate to increase fitness. Only recently have interventions begun to emerge that involve non-structured, facility-based physical activity promotion, to ensure maximum reach, uptake and acceptance to participants with a mental health problem (Glasgow, 2008). Such approaches require careful developmental phases with clearly described details to allow replication and advancement in understanding of if and how different components work. The Medical Research Council guidelines (Campbell et al. Framework for the design and evaluation of complex interventions to improve health. *British Medical Journal*, 2000, 321, 694-696) for developing complex health behaviour change interventions have been widely adopted in health service research. This talk will briefly introduce the guidelines (see Faulkner, G. & Taylor, A.H. (2009). Promoting physical activity for mental health: A complex intervention? *Mental Health & Physical Activity*, 2, 1-3) in the context of developing complex interventions to promote physical activity for people with different mental health conditions. This introduction will provide the background for a series of papers that focus on developing interventions for people with different mental health conditions and related issues.

Developing physical activity interventions for individuals with schizophrenia.

Guy Faulkner (University of Toronto, Canada)
Paul Gorzynski (University of Toronto, Canada)

Schizophrenia is the most disabling and persistent form of severe mental illness (SMI). Life expectancy is shorter by 15 years primarily because of coronary artery disease. Research is urgently required in developing evidence-based behavioural interventions for preventing and treating obesity and diabetes that are specific to this population. In particular, reducing the high prevalence of physical inactivity is a priority. This presentation will discuss our research programme of a sequential series of phases of investigation including a) a systematic review of the existing evidence concerning the physical and mental health benefits of physical activity for people with schizophrenia; b) a qualitative, exploratory study identifying and examining environmental factors



in and around a psychiatric hospital that influence diet and physical activity; and c) the creation and piloting of two interventions that promote active lifestyles including an individual level, modified form of exercise counseling, and an environmental level intervention that encouraged stair use. Using a pre and post single-case experimental design study with four obese adults with schizophrenia, we found the exercise counseling intervention to have mixed success in changing key psychological mediators and physical activity measured by accelerometry. An observational study that explored the implementation of point-of-choice prompts on two unit floors found a brief and non-sustained increase in stair use amongst clients. This phased pilot work suggests multi-level ecological interventions are feasible and acceptable to clients, and has been critical in providing essential feedback for modification and the continued examination of intervention efficacy and effectiveness in more rigorous trials.

Developing a physical activity counselling intervention for adult depression in primary care.

Anne Haase (University of Bristol, UK)
Adrian H. Taylor (University of Exeter, UK)
Ken Fox (University of Bristol, UK)
Mel Chalder (University of Bristol, UK)
Glyn Lewis (University of Bristol, UK)

This presentation discusses the rationale and steps we undertook for developing a theoretically based motivational intervention to promote physical activity (PA) in people with depression, as part of a large multi-centred randomised controlled trial (TREAD). Key principles will be discussed which guided how we developed the intervention. Integrating theoretical motivational constructs from Self-Determination Theory (SDT) was seen as crucial for targets to help depressed patients to increase activity through basic needs satisfaction. With key principles and theory in mind, a framework for patient engagement was devised creating a new role of physical activity facilitators (PAFs). PAFs aimed to provide an autonomy supportive environment through adopting a motivational interviewing approach to enhance competence, autonomy and relatedness around PA in depressed patients. How we aimed to enhance autonomy, competence and relatedness will be presented, using theory-driven strategies and techniques to assist patients to incorporate PA into their daily lives. Operationalisation of the intervention involved a clear system of delivery, communication and interactive strategies and specific session content for delivery. The findings from focus groups and interviews with potential PAFs will highlight the key ideas of the intervention, such as the relationship between the PAF and patient being perceived to be the central core from which behaviour change emerged. Throughout the developmental stages, the focus remained on promoting PA in a stepped, negotiated, self-determined manner to optimise a positive patient experience and maximize the likelihood of less sedentary behaviour and increased physical activity to reduce depressive symptoms.

Developing an integrated exercise/CBT intervention for young men's mental health.

Siobhain McArdle (Dublin City University, Ireland)
Nadine McGale (Dublin City University, Ireland)
Paul Gaffney (Health Service Executive, Ireland).

Research indicates that one in ten adult men experience a significant period of depressive symptoms yet typically do not seek professional help. The reluctance of young men to seek help for early experiences of psychological distress can lead to an escalation in problem severity and a subsequent need for more intensive treatment. In line with recommendations to develop alternative mental health interventions specifically targeted at young men, this presentation outlines the development and evaluation of the 'Back of the Net' (BTN) program. Integrating a cognitive behavioural intervention within a team sport setting, BTN is a 10 week mental health prevention and promotion program targeted at a non-clinical population. To examine the effectiveness of BTN, a sample of 104 sedentary males were recruited and randomly assigned to either the BTN, individual exercise or a control condition in a pilot Randomised Controlled Trial (RCT). At pre-intervention, 21% of the overall sample reported mild to severe depression as measured by the Becks Depression Inventory -2nd Edition (BDI-II). At post-intervention, results showed a 45% decrease in BDI-II scores for men in the BTN condition. A process evaluation employing qualitative methodology was subsequently conducted to explore the views of the participants on the implementation, receipt and setting of the BTN intervention. The structure and manner in which the program was facilitated were identified as central to engagement by the participants. Overall this research highlights the utility of sport as a vehicle for



accessing and engaging men in a community mental health prevention and promotion program.

Developing physical activity interventions for treating nicotine addiction: translating theory and evidence into practice.

Adrian H. Taylor (University of Exeter)

Tom Thompson (University of Exeter)

Treatments for nicotine addiction have notoriously low success rates. Interventions that have involved structured exercise and physical activity counselling approaches will be contrasted, to highlight differences in potential reach, acceptability and effectiveness. Counselling approaches can target explicit and implicit processes by which physical activity may help as an aid. Explicitly, drawing on what we know about the effects of even a short bout of moderate intensity exercise from laboratory studies, physical activity can be promoted to reduce cravings and withdrawal symptoms, and suppress thoughts of and salience of substance use. Implicitly, physical activity can minimise weight gain during cessation (known to be associated with relapse) reduce depression and anxiety and facilitate a shift from a smoker to exerciser identity. Examples of recent interventions designed to aid quit attempts, or help reduce smoking, alongside existing treatments, will be presented, within the context of developing complex interventions. As an aid for quitting, an intervention will be described and justified that aimed to increase the time that NHS Stop Smoking Service advisors spent on promoting physical activity, using six weekly group discussions, a self-help guide and pedometers. As an aid for those wishing to cut down, but not quit in the next month, an intervention will be described and justified that aims to increase physical as 'hard to reach' smokers adopt tailored smoking reduction strategies while implicitly and explicitly increasing physical activity to increase the likelihood of a quit attempt and successful quitting, within a pilot randomised trial.

International perspectives on the training of sport & exercise psychology practitioners: 4 different perspectives.

Organizer: James Beale (University of East London, UK)

Discussant: James Beale (University of East London, UK)

The symposium will examine different perspectives/systems for developing the careers of those people with an interest in sport and exercise psychology. This symposium will focus on the systems that are operating within the UK, the European Masters programme and the way the current system operates to develop sport and exercise psychology practitioners in South Africa.

Within the UK there are currently 2 systems in operation that support development of those interested in sport and exercise psychology. One operates to support students from a sport science background and the other from a mainstream psychology background. Both have governing body recognition attached to them.

The European Masters Programme is a system that is in place to support anybody that would like to study in sport psychology within Europe. The system operates through 12 institutions within 11 countries. The parameters of the programme will be discussed and a case study within the Swedish system will be presented based on exit points of successful graduates.

Finally, a southern hemisphere approach will be examined presenting the position that those coming from a South African perspective and wishing to develop a career within sport and exercise psychology find themselves within.

Discussion will form a substantial part of the symposium with much debate expected from the very different systems that are operating across Europe and the world. All speakers will be available and active within the discussion.



Applied training in sport & exercise psychology for those from a sport science background in the UK.

James Beale (University of East London, UK)

Traditionally those interested in a career in sport and exercise psychology would have followed a training in sport and exercise science at undergraduate level, followed by a post graduate programme in sport and exercise psychology finishing the recognition process through the British Association of Sport and Exercise Sciences (BASES) applied training scheme, supervised experience (SE).

Training for people with an interest in sport psychology within the UK has undergone vast change over the past 5 years. Despite this the BASES SE system continues to support people to work effectively using sport psychology methods to enhance sports performance.

The presentation will present the process of recognition within sport psychology to those people that come from a sport and exercise science background in the UK. The presentation will focus on the process of becoming BASES accredited as a sport and exercise scientist and present a case study of a typical person that has gone through this process.

The case study is based on an interview with a successful sport and exercise scientist that has completed the process recently and will consider the pros and cons of the journey from undergraduate to fully accredited sport and exercise scientist with a specialist in within sport and exercise psychology. It will conclude with the persons hopes and concerns about the future.

Training sport & exercise psychologists in the UK: a British Psychological Society (BPS) perspective.

Martin Eubank (Liverpool John Moores University, UK)

Sport and Exercise Psychologists in the UK are regulated by the Health Professions Council (HPC). The Council maintain a register of practitioners who meet threshold Standards of Proficiency. Registrants use the legally protected title of 'Sport and Exercise Psychologist' (or any derivative thereof).

The HPC approves education programmes that enable trainees to meet the standards required for registration. The British Psychological Society (BPS) is the HPC recognized training provider in the UK. Trainees must complete a BPS accredited 'Stage 1' Masters degree for Sport and Exercise Psychologists (or the Society's own Stage 1 Qualification) with the award of the British Psychological Society Qualification in Sport and Exercise Psychology (Stage 2) or equivalent (e.g. Professional doctorate).

Stage 1 and Stage 2 training involves the key dimensions of knowledge, research and practice underpinning the profession. Stage 2 requires supervised practice that demonstrates competence in i) the implementation of personal and professional standards and ethical practice; ii) the application of psychological knowledge and methods in practice; iii) the development of psychological knowledge and methods through research and iv) the dissemination and communication of psychological knowledge in applied settings. The qualification enables trainees to meet HPC's generic and profession-specific Standards, which define the professional 'expectation of a health professional', the 'skills required for the application of practice', and the 'knowledge, understanding and skills' integral to the profession.

This presentation will discuss current and future developments within the UK training provision and the key processes and outputs of candidates who undertake the training programme.

The European Master's Programme in Sport and Exercise Psychology (EMSEP).

Erwin Aпитzsch (University of Lund, Sweden)

The idea of initiating a European Master's Programme in Sport and Exercise Psychology was first discussed by the Managing Council of FEPSAC in 1988. Subsequently, the following format was agreed on: The first semester facilitated at the Home University should cover a Distance Learning Programme (9 ECTS) in order



to level the background of students from psychology and physical education. In the beginning of the second semester an Intensive Course (14 days) is organised, and the remaining part of the semester can be spent at another University. The first intensive course (IC) was held in Leuven in 1997. Since then the IC has been held every year.

Five years ago the preparation for a common two-year European Master's Programme in Sport and Exercise Psychology (EMSEP) began. The first programme started last year. 20 students from all over the world were accepted to the three Home Universities Jyväskylä (Finland), Lund (Sweden), and Trikala (Greece). Part of the second semester all students will study at the University of Leipzig (Germany). The EMSEP is an Erasmus Mundus Project financed by the European Union.

The programme is conducted in English, includes studying in at least two Universities. Graduates receive Master's degrees from their home University and from their exchange University.

The current presentation will offer a personal reflection from the author of how students experience the programme and what students have gone on to do subsequently. The presentation will offer real life anonymous examples.

The South African system: general systems to become a sport psychologist In South Africa.

David Edwards (University of Zululand, RSA)

Following the First World Congress of Sport Psychology in 1965 in Rome, due to political, economic and social factors, sport and exercise psychology did not develop in South Africa as was the case in some other countries. However over the last twenty years there has been relatively more progress. There is currently no prescribed training route. There are two general routes, which are as follows. Firstly, training is either undertaken in undergraduate psychology, followed by postgraduate training in clinical, counselling or research psychology, including some course content and research on sport and exercise psychology. Alternatively, undergraduate and postgraduate training is undertaken in biokinetics, exercise, sport or human movement science, which may contain courses in sport and exercise psychology. Typically more specific focus, which may include additional training in psychology, biokinetics, exercise, sport or human movement science, occurs after postgraduate training. The Health Professions Council of South Africa (HPCSA) is the statutory registration council for psychologists and biokineticists. There is currently no HPCSA registration category for sport and exercise psychology. The main professional body for psychology is the Psychological Society of South Africa (PSYSSA), which has a Division of Health and Sport Psychology. The main society for biokinetics, exercise, sport and/or human movement science is the South African Sports Medicine Association (SASMA). This presentation will include a case study of one practitioner's route to training as well as general discussion on Sport and Exercise Psychology training and professional development in South Africa.

An ecological dynamics approach to studying behaviour in team ball sports.

Organizer: Duarte Araújo (Technical University of Lisboa, Portugal)

Discussant: Keith Davids (Queensland University of Technology, Australia)

The aim of this symposium is to consider team behaviour as an integral part of goal-directed behaviour constrained at the scale of the environment-athlete system. Competitive team games are not stable contexts in which information is assured. In contrast, successful players need to adapt their actions to the dynamically changing environment that characterises the archetypal performance setting. Since such performance flexibility is tailored to current environmental conditions or task demands perceptual control of actions is implicated.

Based on an ecological dynamics approach (Araújo et al., 2006), in this symposium a formal analysis is presented of the dynamics of athletes' behaviours when performing representative tasks. By recording how players select and adapt their actions during specific tasks, we developed a direct assessment of the mechanisms of decision making behaviours. For this purpose we used motion analysis, to describe the dynamics of a system comprised by an individual and his/her environment (especially the movements of other players). In this symposium we present data showing how key collective variables, such as the distance of an attacker-defender dyad to the goal, evolve over time. With these collective variables, we formally captured the



dynamic properties of the environment-athlete system during decision making, demonstrating the adaptive nature of behaviour in representative tasks. Moreover, we have developed dynamic non-linear models, both for descriptive and predictive purposes. Part of the attractiveness of dynamic models is derived from the fact that they can explain the emergence of several different decisions by means of the same underlying process of originating and decaying attractors.

Varying initial conditions of a 1vs2 rugby task affects decision making behaviours.

Vanda Correia (Technical University of Lisboa, Portugal)

Duarte Araújo (Technical University of Lisboa, Portugal)

Ricardo Duarte (Technical University of Lisboa, Portugal)

Bruno Travassos (Technical University of Lisboa & University of Beira Interior, Portugal)

Keith Davids (Queensland University of Technology, Australia)

Decision making in sport is expressed by players' actions. Goal-directed action is guided by information unfolding from the performance context and shaped by individual, environment and task constraints (Araújo et al., 2006; Davids et al., 2008). Here we investigated the influence of initial task constraints on rugby players' decision making processes while performing a one-versus-two task. Twelve rugby players ($M=17.33$ years, $SD=.49$) performed 80 trials of the 1vs2 experimental task, where attacker's goal was to score a try, and defender's was to prevent it. The starting distance between defenders was the manipulated initial task constraint that was systematically changed in a decreasing sequence. Players' motion trajectories were recorded with a digital video camera (25 Hz) and digitized using TACTO software. Changes in the dependent variables were statistically verified as a function of the variation of the starting distance between the defenders (independent variable) in relation to: i) trial outcome, i.e., try or tackle ($F(4, 28) = 3.866$, $p ? .012$), ii) players' mean velocity values (Attacker: $F(6,42) = 8.187$, $p ? .001$; Defender1: $F(9,59) = 2.547$, $p ? .017$; Defender2: $F(9,630) = 3.528$, $p ? .001$), and iii), the time between the first crossover and the end of the trial ($F(5,38) = 3.005$, $p ? .02$). Results demonstrated how decision making behaviour was expressed differently as a function of how far apart defenders started the task. Implications for practice suggest the importance of setting up task constraints that induce functional player-environment interactions.

Spatiotemporal constraints on interception of a passing ball in team sports.

Bruno Travassos (Technical University of Lisboa & University of Beira Interior, Portugal)

Duarte Araújo (Technical University of Lisboa, Portugal)

Luís Vilar (Technical University of Lisboa & Lusófona UHT, Portugal)

Pedro Esteves (Technical University of Lisboa, Portugal)

Vanda Correia (Technical University of Lisboa, Portugal)

Keith Davids (Queensland University of Technology, Australia)

Studying perceptual control of action by designing representative tasks that include opportunities for action is a key issue to understand movement behaviour (Fajen et al., 2009). The purpose of this study was to capture the information-action coupling that specifies the achievement of a successful or unsuccessful outcome in attempts to intercept a passing ball in a futsal match. Using time series of digitized positional data from futsal players during match performance, time to ball interception (TBI) was investigated as a variable based on the higher order perceptual variable "time to contact". Results revealed that the ball interception was dependent on the distance between defenders and the ball at the moment of pass initiation (1st defender, $F(1,18)=12.74$, $p<.001$ and 2nd defender $F(1,18)=15.71$, $p<.05$), with high values for intercepted balls. Contrary to achievement of successful passes, the adaptation of defenders' velocity to the spatiotemporal requirements of the environment was reflected in the last 30% of the "time to ball interception", in intercepted passes. A statistically significant stabilization of TBI around negative values close to zero for intercepted balls and positive values for successful passes was observed ($p<.05$). These findings emphasized the importance of perceiving informational variables for action, but also of players adapting their behaviours continuously to perform successfully. Successful interception the ball was captured by the available time between an individual's current capabilities and the specific spatiotemporal properties of the ball in flight at an interception point.



Basketball players coordinate their actions with opponents constrained by their position relative to the basket.

Pedro Esteves (Technical University of Lisboa, Portugal)
Duarte Araújo (Technical University of Lisboa, Portugal)
Carlos Esteves (Engineering Faculty of the University of Porto, Portugal)
Luís Vilar (Technical University of Lisboa & Lusófona UHT, Portugal)
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Keith Davids (Queensland University of Technology, Australia)

In order to perform daily activities, individuals coordinate their actions with other individuals and objects within the immediate surrounding. In basketball, attackers and defenders exhibit a strong attraction for relative positioning in a longitudinal direction, which may suggest that the basket acts as a relevant constraint for interpersonal coordination. In this study we analysed the influence of relative positioning of attacker-defender dyads on interpersonal coordination dynamics. Participants were four basketball players that played the one-on-one sub-phase in 9 different relative positions to the basket (0° to 180°) with an increment of every 20° . Following the recording of the performance in this sub-phase, attacker and defenders' movement displacement trajectories were digitized. As expected, the collective behaviour of the players changed according to the manipulation of relative positioning to the basket. Particularly, the left end line of the court prompted a strong and stable attractor of in-phase coordination mode, both for lateral and longitudinal displacement trajectories. Moreover, the attractor's strength for in-phase coordination modes decreased from the left end side to the centre of the court. Results suggested that the basket acted as a relevant constraint on the emergence of goal-directed behaviours of attackers and defenders in basketball.

Do professional football teams behave like superorganisms?

Ricardo Duarte (Technical University of Lisboa, Portugal)
Duarte Araújo (Technical University of Lisboa, Portugal)
Hugo Folgado (University of Évora, Portugal)
Pedro Marques (Department of Performance Analysis, Manchester City FC, UK)
Keith Davids (Queensland University of Technology, Australia)

Research in social psychology suggests that individuals who are informationally-linked can interact together resulting in emergent group behaviours based on coordinated actions (Marsh et al., 2009). Examples of such social neurobiological systems range from simple dyadic relations to more complex collective structures such as, for instance, the pattern dynamics of a whole football team. These collectives may be understood as new organisms, or as termed in sociobiology, superorganisms (Hölldobler, & Wilson, 2009). Critical features of superorganisms include: i) system agents behaving as a unit, ii) showing idiosyncrasies in behaviours and structural organisation, iii) undergoing a clearly adaptive cycle of growth, and iv), displaying differentiated tasks amongst individuals. Using ecological dynamic principles (Araújo et al., 2006), we investigated how football teams might be regarded as superorganisms. For this purpose, we developed and tested collective motion variables to analyse pattern dynamics of football teams. Using 2D positional data of 22 players from competitive match play of the English Premier League (Prozone®, ProZone Holdings Ltd, UK), we calculated the width, length, surface area, geometrical centre, and stretch index for the collective patterns emerging in each team. We also calculated the differences between teams for these variables to identify changes in coordination between teams. Although still at the exploratory stage, data analyses seem to have identified key game events that create instabilities in coordination patterns between teams. The use of collective motion variables seem to synthesize the differentiated contribute of each individual player and capture emergent team behaviours at the collective/superorganismic level.

Assistance in career transitions: an international perspective.

Organizer: Paul Wylleman (Vrije Universiteit Brussel, Belgium)
Discussant: Natalia B. Stambulova (Halmstad University, Sweden)

This symposium follows the symposium 'New trends in the career transition research' and will focus more on the applied aspects of career transitions programs and the provision of career support throughout as well as



after the athletic career. The first presentation will focus on the role of parents and siblings in elite basketball players' transition from junior to elite level. The second presentation will discuss the conceptual model for assistance in career transitions (ACT model) which may aid performance enhancement practitioners to adopt the holistic lifespan perspective in working with their clients and stimulate them to add assistance in career transitions to their professional repertoires. The third presentation uses a case study method to explore the process of an athlete's career transition programme development and will present benefits which could help to encourage other organizations to develop athlete support programme. The fourth presentation discusses the way in which (non-) selection and participation of swimmers in the 2008 Olympic Games can be perceived as a within-career transition and influences the swimmers' interpersonal relationships. The final presentation will focus on the strategies used with the Olympic Teams of Mexico over 3 Olympic Games and more particularly on the programs that were followed prior to the Games as well as the strategies used during the Games when the decision of retirement after the Games was established.

The role of parents and siblings in the transition to elite basketball.

Miquel Torregrosa (Universitat Autònoma de Barcelona, Spain)

Jesús Portillo (Universitat Autònoma de Barcelona, Spain)

Cristina Lagarza (Universitat Autònoma de Barcelona, Spain)

Youth sports represent a sport setting that has become synonymous of the problematic behaviors of parents (e.g., Harwood & Knight, 2009) and only few studies reflect that parents can have also a positive effect on athletes' career (e.g., Wuertth, Lee & Alfermann, 2004). The objective of this work was to evaluate the role of parents and siblings in the trajectories of elite basketball players especially in the transition from junior to elite. We interviewed separately seven basketball players (5 male and 2 female), their parents (6 male and 7 female) and siblings (6 male and 1 female). Interviews were conducted in each participant preferred location, lasted an average of 40 minutes and were transcribed verbatim. Content analysis shows that overall: (a) basketball players value the praise without pressure of their parents, and their sense of autonomy in all the decisions related to sports career, (b) parents have tried to be very supportive to the players hiding sometimes their own fears and insecurities related to their sons/daughters sports career, (c) siblings are placed most of the times in a mediating position with a function of confident some times of the parents other of the basketball players but never for both of them at the same time. In conclusion, the supportive role of parents and siblings is an important facilitator in the most of the times very difficult transition from junior to elite basketball. Counseling can be oriented in trying to promote autonomy in players' decision making, and not to transfer the pressure from the players to their siblings.

From a Meta-Review to the Conceptual Model for Assistance in Career Transitions.

Natalia B. Stambulova (Halmstad University, Sweden)

The conceptual model for assistance in career transitions (ACT model) is derived from a meta-review of the career transition literature (Stambulova, 2012) and the author's experiences of working with transitional athletes. Major contemporary ideas on athletes' career development and transitions, and especially a holistic lifespan perspective (Wylleman & Lavallee, 2004), were incorporated into the ACT model with eight interrelated components: (1) foundations, (2) client's characteristics and mediating factors, (3) goals, (4) contexts, (5) time frames, (6) basic methods (needs assessment, education, counselling, and training), (7) perspectives (preventive-educational vs. crisis-coping) and content with seven major intervention types (career planning, lifestyle management, life skills training, identity development, cultural adaptation, crisis-coping educational, and clinical), and (8) assessment. The ACT model serves several functions. First, the model is created to integrate existing knowledge about assistance to athletes in career transitions. Second, the ACT model provides a framework to plan an individual career transition intervention with its individualized goals, contexts, time frames, content, and so forth. The client's characteristics are crucial to define the individualized goals and related perspective in the intervention, while mediating contextual factors are important in order to adapt the intervention strategies to the client and his/her environment. Third, the ACT model is created for educational purposes to introduce assistance in career transitions to applied sport psychology students. Fourth, the ACT model might aid performance enhancement practitioners to adopt the holistic lifespan perspective in working with their clients and stimulate them to add assistance in career transitions to their professional repertoires.



The development of an athletes' career transition support programme: a case study.

Sunghee Park (University of Stirling, UK)
David Lavalley (University of Stirling, UK)
David Tod (Aberystwyth University, UK)

The aim of this study was to explore the process understanding an athletes' career transition programme development, including (a) the views of the people involved in a national organization for supporting athletes' career transitions, and (b) how these people from the organization address the important psychological factors associated with athletes' career transitions in the programme. A case study method was used, and multiple sources of data (documents, individual interviews, and video files) were collected over 10 months. Interview transcripts were thematically content analysed, a case story was written based on other data sources, and previous literature was used to guide to interpret findings from the original data. Results indicated that participants had positive attitudes toward providing athletes support (e.g., obligation, duty of care), perceived several potential limitations and risks to sustainment (e.g., funding cut, athletes' negative perceptions for retirement, and limited resources), and considered a marketing performance agenda as a solution. The programme contained two major areas to support athletes' psychological issues, including focusing on developmental perspectives (e.g., balance of life, transferable skills) and trying to be both proactive and reactive in supporting athletes (pre and post-retirement support). The present findings indicate the potential benefits of athletes support for both providers (organizations) (e.g., performance enhancement, keeping a thletes in sport longer) and athletes (e.g., performance enhancement, developing life skills). These benefits could help to encourage other organizations to develop athlete support programme.

The Olympic Games as career transition.

Paul Wylleman (Vrije Universiteit Brussel, Belgium)
Anke Reints (Vrije Universiteit Brussel, Belgium)
Steffi Van Aken (Vrije Universiteit Brussel, Belgium)

The Olympic Games (OGs) can influence the end of the athletic career as well as the development of the athletic career following the OGs. Based within a holistic approach, Wylleman & Lavalley's (2004) developmental model was used as a framework to study the influence of the 2008 OGs on swimmers' psychological, psychosocial, and academic/vocational development. Using both inductive and deductive content analysis, six Flemish elite swimmers and ten significant others to these swimmers were interviewed. Data analysis was conducted using NVivo 8 (Qualitative Research Solutions International, 2000). Of the six swimmers, four made the Belgian Olympic team while two did not qualify for the 2008 Olympic Games. Participating as well as not participating in the OGs influenced swimmers' development at different levels. For one swimmer, participation became a strong impetus to continue until the 2012 OGs. (Non-)participation also influenced the quality and quantity of swimmers' relationships with parents, partner, siblings, and coach, including a decrease in frequency of contact with family and partner, and an increase in frequency with the coach before and during the OGs, and vice versa after (not making) the OGs. Swimmers also perceived changes to occur at other levels of development. For athletes who participated in the OGs, it was perceived as an important within-in career transition, while for those who did not qualify, it was perceived an antecedent to their athletic career end. For all, the Olympic Games also had a strong influence on the quantity and quality of the interpersonal relationships.

The emotions and transition out of the Olympic Games at 16 or 60.

Christina Fink (Mexican Olympic Committee, Mexico)

Participation in the Olympic Games is one of the most demanding, exciting, and stressful situations of an elite athlete's life. The expectations placed on Olympic athletes can turn the Olympic dream into a nightmare. If these are the athletes' last games, they need to be prepared to deal with the emotions this transition will evoke before the Games begin. Emotions play a crucial role in athletic performance (Hanin, 2002). The emotional roller coaster that presents itself at the Games has the potential to impact the performance of athletes (Turco, 1999, Runyan 1999, Fink, Rolo, Taylor, Jannes & Gould, 2003) and coaches (Fink, Rolo, Taylor, Jannes & Gould, 2003) in a positive and negative way. The fact that the Olympic Games are often a once in a lifetime opportunity for the athletes, with significant financial and career implications, presents a significant challenge



for the consultant and the athlete from a performance perspective. When you are dealing with athletes who have decided to retire after the Olympic Games, the pressure is even higher. The fact that athletes retire at 16 or 60 has its own implications that will be discussed. This presentations will focus on the strategies used with the Olympic Teams of Mexico over 3 Olympic Games. The presenter will focus on the transition out of Elite Competition, the programs that were followed prior to the Games as well as the strategies used during the Games when the decision of retirement after the Games was established.

Physical activity interventions in the workplace: Implementation, evaluation and challenges.

Organizer: Cecilie Thogersen-Ntoumani (University of Birmingham, UK)

Discussant: Kenneth R Fox (University of Bristol, UK)

Due to a variety of factors, it is notoriously difficult to implement effective physical activity interventions in the workplace. The aim of the proposed symposium is to highlight relevant issues and challenges associated with implementing rather novel workplace physical activity intervention designed to increase physical activity participation and psychological well-being among sedentary employees. The studies presented will have used a variety of quantitative and qualitative methods to a) highlight issues of implementation and feasibility, b) evaluate the effectiveness of a specific intervention, c) examine potential mechanisms underlying physical activity adoption and adherence and d) discuss pertinent challenges in changing physical activity behaviour in the workplace. The first paper discusses components of, and challenges associated with, the design and implementation of a 16-week lunchtime walking interventions with sedentary employees. The second presentation provides a summary of the evaluation of the above mentioned intervention using quantitative methods. The third presentation uses a qualitative approach to tap into potential mechanisms underpinning physical activity behaviour change in sedentary employees. Using examples from international research, the final presentation considers how aspects of work culture can act as both a promoter and inhibitor of physical activity engagement in the workplace. This series of studies show that the workplace is a viable, but also very challenging, setting for promoting physical activity among a large segment of the adult working population.

Step by Step: The development and implementation of a 16-week workplace lunchtime walking programme.

Elizabeth Loughren (University of Birmingham, UK)

Cecilie Thogersen-Ntoumani (University of Birmingham, UK)

Joan L. Duda (University of Birmingham, UK)

Kenneth R. Fox (University of Bristol, UK)

Florence-Emilie Kinnafick (University of Birmingham, UK)

In developing an effective walking intervention in the workplace numerous considerations need to be taken into account. These range from implementation of social marketing principles for participant recruitment to strategies designed to optimise motivation and adherence, and programme evaluation. This presentation discusses the various facets and underpinnings in designing, implementing and evaluating a 16-week workplace lunchtime walking intervention targeted towards sedentary office workers in a university setting. Topics to be covered include a) aspects of directed social marketing activities, b) design of the walk routes, c) walk leader training, and d) use of motivational tools and concepts to encourage participation. Successes and limitations of the intervention will be discussed based on quantitative data and qualitative feed-back from the participants and walk leaders. Based upon lessons learned, recommendations for future walking programme intervention development will be provided.

A step in the right direction?: Outcomes of a workplace physical activity intervention.

Cecilie Thogersen-Ntoumani (University of Birmingham, UK)

Elizabeth Loughren (University of Birmingham, UK)

Kenneth R. Fox (University of Bristol, UK)

Joan L. Duda (University of Birmingham, UK)

Florence-Emilie Kinnafick (University of Birmingham, UK)

Methods: Participants ($n = 75$; M age = 46.67) were sedentary non-academic employees at a British



University. A 16-week walking programme was designed to increase walking behaviour, health, well-being and work performance. The first ten weeks were group-based and facilitated by a trained walk leader. Participants were requested to take part in three weekday and two weekend walks, each 30 minutes in duration. Participants completed measures assessing physical activity, and general and work-specific well-being variables at three time points (baseline, end of intervention, and four months post intervention).

Results:

Repeated measures ANOVAs showed increases in walking, other moderate intensity, and vigorous physical activity, perceptions of health, subjective vitality, life satisfaction, self-reported work performance, and decreases in nervousness and fatigue at work between the baseline and the end of the intervention in both groups. Further, the immediate treatment group had higher levels of subjective vitality, life satisfaction, and engaged in more walking and total physical activity behaviour at the end of the intervention than the waiting list control group at baseline.

Conclusions:

A 16-week lunchtime walking programme can enhance physical activity levels and well-being in previously sedentary employees. Results of the four-month follow-up will show whether physical activity, well-being and performance can be sustained in the longer-term.

Motivational processes in physical activity adoption and adherence: longitudinal case studies.

Florence-Emilie Kinnafick (University of Birmingham, UK)

Cecilie Thogersen-Ntoumani (University of Birmingham, UK)

Joan L. Duda (University of Birmingham, UK)

Objective:

Adherence to physical activity interventions is poorly understood. Using Self-Determination Theory as a framework, this study explored the psycho-social processes associated with the transition through physical activity adoption to adherence in sedentary adults participating in a 16-week lunchtime walking programme ('Step by Step').

Design:

An interpretative phenomenological approach, including investigator triangulation, was used to answer inter-related questions: What are the motivational processes used in the adoption and adherence phases of a physical activity programme? How are they experienced by sedentary adults and how do these change over time? What are the sources of support key to different stages of the behaviour change process?

Method:

Five sedentary female participants were interviewed separately on four occasions (prior, mid-intervention, immediately post intervention, 6 month follow-up). Semi-structured interviews were recorded (averaging 18 minutes), and transcribed verbatim.

Results:

Introjected reasons (guilt) for engagement was a prominent theme during the adoption stage. Over time, temptations to return to a sedentary lifestyle were reduced in individuals demonstrating internalised and integrated motivations for engagement (enjoyment). Adhering individuals experienced increases in competence and relatedness during early stages and autonomy throughout the independent phase. Participants placing high importance on sources of support (programme and walk leaders) displayed a lower quality in motivation throughout the independent phase and subsequently.

Conclusions:

Findings are consistent with the SDT literature and add prospective detail to relationships between need satisfaction, sources of support and positive behavioural aspects towards physical activity; They offer a longitudinal view to the importance of sources of support at different stages of a walking intervention.

The local work context in promoting and inhibiting physical activity engagement in the workplace.



James McKenna (Leeds Metropolitan University, UK)

The promotion of workplace physical activity (WPA) represents an important venue for pursuing Public Health aspirations. However, any form of change in the workplace is subject to systematic 'organizational defensive routines' (Argyris, 2000). This paper addresses the notion that promotion of WPA needs to be based on a detailed understanding of local 'defensive routines' as much as through any indications of top-down organizational support. Drawing on examples from recent international research, the paper will show how specific features in the local context play out in either promoting or inhibiting engagement with physical activity during the working day. Notwithstanding their strong individual motivation, engaged employees often needed to deploy advanced negotiating skills to create the 'space' for their new behaviour. Crucially, they were aware of continued unwanted scrutiny. They were also regularly required to convince the custodians who monitored the local work groups that their new behaviours complimented local performance. Where the custodians were not active themselves during the working day reassurance was often regarded sceptically, which made it difficult to create routines around these new behaviours. The capacity to handle these local challenges seems at least as important as the motivation for changing behaviour and may even help to explain why sustained change is problematic for so many employees. Practitioners need to consider how much capacity there is to support employees to become more active in the light of existing practices and beliefs about work.

Talent development.

Organizer: Johan Michael Wikman (University of Copenhagen, Denmark)

Discussant: Reinhard Stelter (University of Copenhagen, Denmark)

Talent development research is an area of increasing research and practical interest. In career development, the debate on whether early (Ericsson et al., 1993) or late specialization (Côté et al, 2007) is more beneficial for reaching peak performance, is ongoing and investigated in different cultural and environmental contexts, and with several moderating and mediating variables (e.g. Lidor & Lavyan, 2002; Moesch et al, 2010). In the area of psychological training and psychological preparation for talent development and the career in elite sports, studies have been and are being conducted, in many sports and in different cultural and environmental contexts (e.g. Elbe et al, 2005; Gould et al., 1996). Furthermore, the area of talent development environments is gaining increasing interest (e.g. Henriksen, 2010).

This symposium will include five speakers presenting the newest research and results on sport psychological issues of talent development. The presentations of the symposium will reflect the diversity of methods and approaches chosen in this growing research area, with the common goal of investigating talent development.

A comparative study of psychological coping skills between german and pakistani field hockey players.

Ejaz Asghar (University of Leipzig, Germany)

Dorothee Alfermann (University of Leipzig, Germany)

The main purpose of this comparison study between German and Pakistani Field Hockey players at the development stage (12-18 years) is to assess the differences of psychological coping skills, mental toughness and its possible influence on the performance of the players. Data were collected from players in various institutions and clubs of both countries. The Athletic Coping Skills Inventory-28 (ACSI) by Smith, Schutz, Smoll and Ptacek (1995) was used to assess seven underlying psychological skill factors with subscales measuring Coping with adversity, Peaking Under Pressure, Goal setting & Mental preparation, Concentration, Freedom from worry, Confidence & Achievement motivation and Coach ability.

The study shows that there are significant differences in psychological coping strategies in the players of both countries but contrary to expectations Pakistani players reported a higher incidence of coping strategies. Reasons for the results are discussed with regard to differences in competitive goals between both groups.

Key words:

Psychological Coping Skills, Mental toughness, Field Hockey Players, Development stage



A retrospective analysis of two decades of international competitions in different sports.

André Barreiros (University of Porto, Portugal)
Jean Côté (Queens University, Canada)
António Manuel Fonseca (University of Porto, Portugal)

In recent years, sport science research dedicated efforts to study more extensively the relationship between early and late success. However, there is still a lack of information regarding how many athletes who start their international involvement at early ages achieve the same status as seniors. The purpose of the present study was to investigate the international pathway of male and female athletes of different sports, in order to determine: 1) how many international youth athletes achieved or not the same status as seniors; 2) how many senior athletes competed or not as international athletes during their development; 3) if the relationship between early and late success is distinct across different sports. The sample included 1,284 athletes (from soccer, volleyball, swimming and judo) who were born between 1973 and 1983 and competed at international level between 1988 to 2008. Results showed that only a third of international pre-junior athletes and half of junior athletes achieved an international level as seniors. On the other hand, around a third of the senior international athletes did not have any previous international experience. We concluded that particularly at team sports exists more replacement of the international athletes across the stages and also a late selection for many of them, what suggests that in these sports an early involvement at international events was not determinant to succeed.

The development of elite adolescent golfers.

Richard Hayman (Myerscough College, UK)
Remco Polman (Victoria University, Australia)
Jamie Taylor (University of Central Lancashire, UK)
Erika Borkoles (Victoria University, Australia)
Brian Hemmings (St. Mary's University College, UK)

Objectives:

To date limited information examining factors which determine success in golf exists. Therefore, this study examined the nature of developmental, psychosocial and contextual factors experienced by elite adolescent golfers in an effort to establish which factors might be important to achieve elite status in golf.

Design:

Mixed methodology using Interpretative Phenomenological Analysis (IPA) and a questionnaire adapted from Cote, Ericsson and Law (2005) to collect quantitative data.

Method: Participants were eight caucasian male adolescent amateur golfers with a handicap between +2 and +4. All were affiliated with international representative teams run by the English Golf Union. Interviews facilitated discussion of personal accomplishments, patterns of activity involvement and psychosocial influences experienced throughout golf careers to date.

Results:

Four superordiante themes emerged from participant's accounts: social influences, developmental trajectory, strategic philosophy and psychological profile. In achieving elite status, participant accounts highlighted the instrumental roles undertaken by fathers, long term engagement within a diversity of sports activities, a strategic approach to developing excellence and the importance of praise and recognition of achievement in maintaining intrinsic motives.

Conclusions:

The development of international adolescent golfers appears to arise through the interaction of developmental, familial and contextual factors. Participants did not follow an early specialisation trajectory and refrained from engagement within long term golf specific deliberate practice. Instead, participants encountered numerous sporting activities within a playful, developmentally supportive environment until selection for international representative teams during late adolescence. Such findings may provide practitioners within golf talent development systems with stronger scientific basis for their interventions.

Psychological characteristics of youth elite athletes - starting point to improve career development.



Antje Hoffmann (Institute for Applied Training Science, Germany)
Dirk Büsch (Institute for Applied Training Science, Germany)
Juliane Wulff (Institute for Applied Training Science, Germany)

Dropout is a severe problem in elite youth sports. Sport science widely picked up this topic, but could not explain the complex phenomenon satisfactorily. Purpose of this study is to examine longitudinally volitional, motivational and social factors influencing career development of youth athletes in a competitive sport environment.

Method:

58 students (35?, 23?) attending classes 9-12 of a school for young elite athletes were surveyed. Students are involved in winter sports or shooting, the majority of them is member of German junior squad. Motivational (AMS), volitional (VKS) and social components (LSS, PISQ) as well as sport commitment were assessed in March and September 2010.

Results:

Achievement motivation decreases over time, girls show less advantageous patterns than boys. In self-regulation-competences no effects occurred. Students perceived a more positive leadership and coaching behaviour at the second point of measurement, whereas assessment of girls increases more than that of boys. Differences between sports and squad levels also emerged. Overall, parental involvement in sports decreased over time. Younger perceive higher commitment than older ones. Sex*time-interaction effect indicates that addition of boys to their sport increases while girls loose commitment over time.

Discussion:

Results are discussed against the background of the state of the art of career development research, considering situational specifics. Present data corroborate former studies - a multitude of internal and external factors are related to successful career development. The mutual interaction of these components and their correlation to commitment and dropout needs further investigation using a longer observation period and a larger sample.

The role of life skills in a successful soccer environment.

Carsten Hvid Larsen (University of Southern Denmark, Denmark)
Mette Krogh Christensen (University of Southern Denmark, Denmark)
Dorothee Alfermann (University of Leipzig, Germany)

Elite sport is a suitable context for teaching youth life skills in addition to athletic skills. Yet it is unclear which life skills are needed by adolescents. Research in life skills is limited and may not be applicable across cultures and settings (Gould & Carson, 2008; Jones & Lavallee, 2009). The aim of this study was to explore which life skills are important in a successful soccer environment? Methods of data collection included interviewing coaches, talented athletes, parents, and also observations of daily life in the environments to obtain systematic and detailed knowledge of life skills in talent development as it occurs in the real world. The results showed that important life skills were: commitment, hard work, drive, self awareness and strong team/club coherence. A difference in life skills between talented soccer players and the elite were identified as: the ability to sacrifice, deal with setbacks, being curious and setting goals. The results indicate that personal and interpersonal life skills are important in the soccer environment. Furthermore the results reveal a difference between life skills of talented soccer players and the elite. This information could help promising young soccer players make the transition from junior to elite soccer.



Which training, education and support for coaches? Some experiences from different countries.

Organizer: Caterina Gozzoli (Catholic University of Sacred Heart, Italy)

Discussant: Sam Zizzi (West Virginia University, Italy)

This symposium arises from the necessity to give an answer to the following question: "Besides the technical training, which typologies of training support and issues can be aimed and useful for coaches?". The symposium aims at reflecting on interventions addressed to coaches (Which trained professional knowledge and skills? With which approach and methods? Which support to their professional identity?) by sharing different experiences from Italy, Spain and North America.

In the proposed symposium, we refer to educational/training programs and intervention to support the professional role concerning psycho-social topics rather than technical training/support.

In several sporting contexts, the support to the professional role and the training offered and requested to coaches is mainly about technical and tactical issues (Erikson et al., 2009). These features are crucial in order to be coaches, but besides these there are further important psychosocial skills to be developed (Cotè et al., 2007). They deal, for instance, with the way to manage the different relationships (with athletes, managers, parents) in order to motivate, communicate and plan bounding together technical and psycho-social issues (e.g. supporting talent development, considering the athletes' growth not only at technical level, but by a broader perspective). It is important to note that the sport organizations have changed during the last decades, and that the implicit and explicit questions regarding psychological issues are frequently emerging (Porro, 2006).

In line with the symposium aim, we are going to present some focused experiences and activities carried out with coaches on the aforementioned issues, with different characteristics (e.g. various stakeholders; different objects, approaches, methods, and tools). We will be also presenting main outcomes of these interventions.

Training-research education programs with youth sectors soccer coaches: some Italian experiences.

Daniela Frascaroli (Catholic University of Sacred Heart, Italy)

Caterina Gozzoli (Catholic University of Sacred Heart, Italy)

As a consequent of the recent social-productive transformations, sport organizations, as many other organizations, have deeply changed. For this reason, they are characterized by an increasing complexity.

Literature underlines the coaches' central and delicate role in sport organizations (Cassidy et al., 2006), especially in the youth sectors. The coaches seems to cope with the effort due to this overgrowing complexity. Their need of support, not only at the technical level, is emerging.

Since 2005 our University received several intervention requests concerning support and educational programs addressed to youth sector coaches (professional and non-professional) and focused on psycho-social issues (e.g. relational skills). Therefore we realized 8 educational programs (more or less 90 coaches were involved) that have both common aspects (e.g. core issues; training approach based on participative learning and learning from experience; Bion, 1972) and differences (e.g. educational process evolution).

Starting from these 8 programs, the paper aims: 1) to identify and to present the core methodological features (regarding the training and the training evaluation approach) of these programs and their characteristics (e.g. specific formative aims and objects); 2) to investigate the training processes (e.g. evolution; turning points) and the main relevant outcomes (e.g. perceived learning; transfer of learning).

Data were collected through verbatim transcription of group discussions (evaluation moments), semi-structured interviews (to trainers and coaches) and participants' products (their evaluation). We are conducting the content-analysis (with the support of ATLAS.ti) on the obtained material.

Interesting outcomes are emerging in terms of common features (e.g. effort and resources regarding the used educational method; training outcomes concerning the development of more complex representations; coaches' efforts) and differences (e.g. transfer of learning; use of the colleagues' group).



Training coaches in sport psychology within an academic environment, the applied master's in coaching.

Sam Zizzi (West Virginia University, USA)

Kristen Dieffenbach (West Virginia University, USA)

Alessandro Quartiroli (West Virginia University, USA)

The great need of standardization and professionalism within the coaching profession brought our University to offer a Master of Science in Athletic Coaching Education. Two models for training coaches are offered: one focused on the needs of coaches employed at our university as a part-time or full-time coach with any university-affiliated sport program, while the other delivered online throughout North America. The presentation will focus on how these programs prepare coaches, using the same core content but using the different delivery mechanisms. Emphasis will be placed on how psycho-social competencies are integrated to help coaches improving team relations and motivation, considered as key factor of a successful coaching style.

A model of psychological intervention with youth soccer coaches: an experience at the Real Zaragoza.

Luis Cantarero (Universidad de Zaragoza, Spain)

Chiara D'Angelo (Catholic University of Sacred Heart, Italy)

When a psychologist starts a consulting work in a youth sector, one of his main focuses is to make coaches aware of psychological intervention usefulness.

Supporting coaches daily activity should mean to include psychological aims in their year training plan. To do that it is necessary to activate training and consulting programs for coaches.

In soccer we have identified 3 main groups of skills which young players have to develop; psychological skills that a coach should train at the same way of technical and tactical ones.

1-Skills to work in team: roles and rules definition, team goal setting, effective communication system, construction of membership,

2-Cognitive skills: intuition, attention and concentration development, decision making;

3-Emotional skills: anxiety management, self-confidence and motivation development, self-esteem and emotional stability.

The consultancy experience in the youth sector of Real Zaragoza started 5 years ago (season 2006/2007) using this philosophy of intervention.

We worked with 8 teams (totally 160 players), in particular with the 8 coaches and their staff (coach assistant, physiotherapists, etc.), using an ethnographic methodology, in direct contact with all the actors on the soccer field.

Focusing our attention on the coach-athletes relationship, we aimed to plan different ways to include psychological skills (team cohesion, anxiety management, concentration development, etc.) in daily training program. We started analysing what coaches do during training sessions and weakly games. Discussing with coaches we pointed out some strategies to favour the psychosocial development of young players.

Some outcomes of this experience will be presented, in order to point out some guidelines regarding psychological consulting work with youth coaches.

Supporting the role of soccer youth sector coaches: an experience at AC Milan.

Giuseppe Scaratti (Catholic University of Sacred Heart, Italy)

Silvia Pasolini (Catholic University of Sacred Heart, Italy)

Sport organizations are crossed by deep changes and characterized by an increasing complexity. Furthermore there is an increasing tension among the overgrowing competitive wills and the delicate relationship adults-teens. These characteristics are more amplified and evident in the Youth Sectors, especially in the professional clubs. The coaches' central role (especially in youth sectors) is pointed out by the international literature (e.g. Cassidy et al, 2006).

Since 2007 a consulting intervention is carried out by our University for the AC Milan youth sector. The stakeholders' request concerned an intervention to improve the service quality. This paper is focused on one of the several activities we carried out: the support to coaches regarding psycho-social issues.

The paper will focus on the field work carried out in 4 "Academy Team" in AC Milan Youth Sector. Using an



ethnographic methodology 4 psychologists worked during a full season (2009/2010) with 4 different coaches and their teams. They collected more than 120 ethnographic observations of training sessions and games, with the aim to highlight some psychological central topics about coach role such as: communication process with single athletes and whole group, team work with the rest of the staff, parents and managers relationship management.

We are conducting the content-analysis (with the support of ATLAS.ti) on the produced material. Interesting outcomes are emerging at two different levels: about the coach-athletes relationships, and about the methodology used for the role support process.



Sport psychology perspectives by International leaders.

Organizer: Sidónio Serpa (Technical Univ. Lisbon - Faculty Human Kinetics, Portugal)

Discussant: Sidónio Serpa (Technical Univ. Lisbon - Faculty Human Kinetics, Portugal)

Sport psychology has improved all over the World in what concerns theoretical framework, methodologies and applied issues. Mainly since the late 70's of the 20th century specific theories and models were developed in sport psychology for a better understanding of sports behavior, and intervention approaches were also improved taking into account the sport context and constraints. In this symposium three leading sport psychologists, from different parts of the World, will present their reflections on current relevant issues. A general state-of-the-art in S&EP will be systematically discussed by Dieter Hackfort, Past-President of the International Society of Sport Psychology, a discussion about the concepts, procedures and methodological aspects of imagery in sport will be presented by Tony Morris, President of the Asian-South Pacific Association of Sport Psychology, and a theoretical perspective, research data and intervention recommendations on burn out in soccer coaches will be the contribution of Dietmar Samulsky, President of the South American Society of Sport Psychology.

M-perspectives on sport and exercise psychology.

Dieter Hackfort (Uni AF Munich, Germany)

Reflections on theoretical, methodological, and interventional contributions to Sport and Exercise Psychology are not random but necessary to ensure consistency and solidity of the discipline and its development with regard to research, teaching, and praxis. Such reflections serve not only to better understand the state of the art by a retrospective but is essential for an evaluation to detect promising approaches, insufficiencies and potentials for improvements as well as a projection to detect fruitful tendencies and challenges.

It is fundamental for a reasonable organization of such a reflection to systematically elaborate a framework and explicitly define the point of view from which the reflections start and to outline the purpose and intention(s). In the contribution (1) an approach will be presented which is characterized to be an M-Perspective. (2) Examples to demonstrate controversial matters are discussed, and (3) strategies for future advancements based on the M-Perspective are explained.

Imagery: what is the current picture?

Tony Morris (Victoria University, Australia)

Imagery, the most widely used technique in sport psychology, has the potential to be applied in many situations, including learning/rehearsing skills, developing/practicing strategies, previewing/reviewing performance, and managing psychological variables, including anxiety, confidence, concentration and motivation. Because imagery is a mental process, knowledge has been gained indirectly by asking people about their imagery. Also, being so diverse imagery still has many mysteries to reveal about effective use. Often researchers have dipped into the study of imagery, so systematic resolution of questions is limited, whereas many individual studies provide snapshots of the imagery process. In this presentation, I discuss areas of imagery that merit systematic attention in our quest to understand how imagery works to apply it to best effect in sport. In the presentation I consider issues related to theory and conceptualization of imagery in sport and exercise, measurement of aspects of imagery and appropriate use of imagery measures, effectively applying imagery in sport, and examining brain involvement during imagery. Specifically, in considering theory, I address what progress has been made in explaining how imagery works. Reflection on measurement includes the importance of monitoring imagery ability in research and the value of assessing imagery ability and use in applied work. On application, the focus will be on how to organize all the disparate research to apply it effectively in the development of imagery training programs. Finally, I will briefly discuss some recent directions of research addressing the challenging question of what happens in the brain during imagery.



Preventing and controlling burnout in Brazilian soccer coaches.

Dietmar Martin Samulski (Federal University of Minas Gerais, Brazil)

It is observed in the literature a lack of studies about stress and burnout in soccer coaches. The purpose of this study is to analyze the causes, effects and manifestations of stress and burnout of Brazilian soccer coaches and to develop an intervention program to prevent and control burnout in coaches. The theoretical concept of this study is an action-based understanding of stress and burnout, which analyze the interaction of person, environmental and task-oriented factors of burnout. In this study the Brazilian version of the RESTQ-Coach questionnaire was applied in 141 soccer coaches of different categories. The results of this study showed that soccer coaches have high level of stress and pressure to win, inadequate recovery periods and coping strategies, and sleeping and eating disorders. The authors give the following recommendations for preventing and controlling stress and burnout: develop a positive attitude and self-motivation, learn stress control techniques and coping strategies, improve recovery periods and techniques, practice more physical activity, improve sleeping quality and treat eating disorders.

Talent development and career development topics in sport psychology: two liquids in one bottle or the same liquid in two bottles?

Organizer: Natalia Stambulova (Halmstad University, Sweden)

Discussant: Paul Wylleman (Vrije Universiteit Brussel, Belgium)

An idea of this invited symposium is to get together career and talent development researchers and practitioners in sport psychology to share ideas and discuss possible ways of improving cooperation between these two overlapping topics. The symposium will start with two presentations of the talent development and career development topics in sport psychology each covering relevant key terms, evolution, theoretical frameworks, major research directions, and applied aspects. The presentations will be followed by a panel discussion with six participants representing both topics and different cultural traditions in sport psychology. Here is a set of discussion questions: (1) What is the common ground and what are the differences between both approaches? (2) What are the topics of mutual interest? For example, (a) Career initiation and related talent development issues: early specialization vs. early diversification; talent selection vs. young athletes' motivation and commitment; beginning of sport specialization; role of parents; (b) Career continuation and related talent development issues: dropout from sports in adolescent years and transition from junior to senior sports; identity development and dual careers for junior athletes (elite sport schools, etc.), and (c) Career termination and related talent development issues: transferable skills, personal identity, readiness for athletic retirement, (3) What can we learn from each other? (4) What are the needs in future research and how can we cooperate with each other? The symposium might become a turning point in cooperation between the career and talent development topics and also be followed by a joint publication of the symposium participants.

Talent development topic in sport psychology.

Daniel Gould (Michigan State University, USA)

Anne-Marie Elbe (University of Copenhagen, Denmark)

Tynke Toering (Norwegian School of Sport Sciences, Norway)

One of the first studies on talent development among world-class performers was conducted by Bloom (1985), and talent development research in sport has increased ever since. Models comparable to Bloom's original three-stage model of initiation, development, and perfection years have been proposed by others (e.g., Côté, 1999; Durand-Bush & Salmela, 2002). Elite athletes typically develop from their initiation years, in which they try different sports and focus is on enjoyment, through their development years, in which sport-specific training in their main sport and more objective measures of performance are central, to their perfection years that require complete commitment to training activities and devotion to the development of high-level performance (e.g., Côté, Baker, & Abernethy, 2007). Durand-Bush and Salmela (2002) introduced a fourth stage (maintenance years), in which athletes achieved the highest performance level in their sports. A large body of knowledge about talent development in sport has been established, mainly focusing on factors influencing elite athletes' development in each developmental stage, such as deliberate practice/ play, specialization, parents, burnout, and balance of life identity (e.g., Gould, Dieffenbach, & Moffett, 2002). Most research has been



cross-sectional or retrospective, indicating the need for more longitudinal studies. As there are many different approaches to the concept of talent that range from simple to complex and from nature to nurture, there are also many approaches to talent development research and practice. It is generally agreed upon that talent is multifaceted, and that talent development is a multidimensional process which takes place within particular contexts.

Career development and transition topic in sport psychology.

Natalia Stambulova (Halmstad University, Sweden)

Paul Wylleman (Vrije Universiteit Brussel, Belgium)

Miquel Torregrosa (Universitat Autònoma de Barcelona, Spain)

Career development and transition topic in sport psychology has had an about fifty-year evolution with an essential increase in research and applications during the past two decades (e.g., Wylleman, Alfermann, & Lavallee, 2004). Current status of the topic is characterized by: (a) sport-specific definitions of key concepts, such as athletic career, career transition, crisis-transition, and career assistance (e.g., Alfermann & Stambulova, 2007), (b) classifications of athletes' transitions (athletic and non-athletic; normative and non-normative), related theoretical frameworks (descriptive and explanatory) and interventions (preventive/educational and crisis/negative consequences coping), (c) holistic lifespan perspective (Wylleman & Lavallee, 2004) and a solid body of knowledge about athletes' transitions and the factors involved (especially, about athletic retirement and transition to senior/elite sports); (d) professional practice experiences accumulated in career assistance programs (e.g., Gordon, Lavallee, & Grove, 2005), and (e) principles, values, typical working issues, intervention strategies and tools integrated into the professional culture of career assistance (Stambulova, 2010). Career development and transition research is currently spread around the world, and the researchers normally internalize their research foci from relevant socio-cultural contexts (Stambulova, Alfermann, Statler, & Côté, 2009). Culturally informed career assistance programs in various countries provide services helping athletes to reach both athletic and personal excellence, and make their athletic career a resource for the life career (e.g., Wylleman, Theeboom, & Lavallee, 2004).

Health and Performance: An insoluble equation?

Organizer: Cedric Quignon-Fleuret (INSEP, France)

Discussant: Gilles Lecocq (ILEPS, France)

The high level athlete* and the concept of limits: about a notion of balance in the investment.

Cedric Quignon-Fleuret (INSEP, France)

Every day the HLA* has to test his physical as well as psychological limits. During this experience and through this process, he improves knowledge about himself, but also exposes himself to various dangers.

In his early years the HLA develops an intimate and unique relationship with his own performance. Therefore he will expect things from his performance beyond pure results. He will frequently have expectations that go outside the Real and are related with Phantasm. This appears as an important dimension to consider for the HLA, due to potential consequences of sportive failures, in those situations.

In the same logic, The HLA has great expectations towards his body, as he considers it as a tool for accomplishment, into the search for excellence.

The HLA will push his body to his limits as a part of a normal process of self knowledge. Therefore the injury can be perceived as a failure from the body and it could become a moment of psychic danger for the HLA who wasn't mentally prepare for that event.

How can the psychologist work with HLA on a notion of balance in his investment and keep accompany him in his search for excellence?

How can the psychologist help preventing these periods of suffering and disillusion and how can he help the HLA once they have appeared?



Proposition of a clinical modelisation for the understanding of the sport practice involvement troubles: From addiction and over-training syndrome to Psychological Exhaustion Syndrome (PES).

Greg Décamps (Laboratory of Psychology - Université Bordeaux Segalen, France)

Troubles of involvement in sport practice are one of the main topics of actual researches on the relations between sport practice, well being and health (Kernn, 2007; Raedeke, 1997). According to scientific literature, these troubles, such as addiction to sport practice, over-training syndrome or athlete burn out, may be linked with an increase or a decrease of involvement (Lemyre & al, 2007). Then, this presentation aims to summarise the principal troubles encountered by sportsmen in order to analyse their differences and similarities and to propose a two-dimension-model for the troubles of sport practice involvement based on the analysis of several scientific papers on this topic.

The analysis of scientific paper reveals several critics about the different definitions of athlete burn out when referring to original definitions of burn out (Goodger & al, 2007). The definition of the Psychological Exhaustion Syndrome (PES) is proposed here in order to clarify these areas (Décamps & al, 2011). Moreover, this analysis leads to establish that motivation and direction of the involvement (over vs. under) permits distinguishing over-training syndrome and athlete burn out. But more than the direction of the involvement, intensity of sport practice has to be taken into account in order to classify the different forms of troubles. Then, a two-dimension-model based on involvement direction and intensity of practice is proposed here for the understanding of these troubles.

This model will be discussed in order to determine its possible application for clinical treatments of sportsmen's career disturbances and for psychological follow up studies.

The excess, the exclusion, and the fragility: three avatars created when human performance become the only way of life.

Gilles Lecocq (ILEPS & University of Reims Champagne Ardenne, France)

Fragile identity feels like skating on thin ice. When running among fast runners, to slow down means to be left behind; when running on thin ice, slowing down also means the real threat of being drowned. When a speed is increasing, two avatars allow a sportsman to discover how his fragility is the way to re-discover what a meaningful life is.

In a first time, from two avatars created when human performance is the only way of life, the excess and the exclusion, we'll demonstrate how a fragile identity is not a pathological symptom in the field's sport and we'll re-investigate what is a normal life. Then in a second time, we'll suggest how the primary mission of applied sport psychology is to identify and understand theories and techniques that can be applied to sport and exercise to enhance athletic performance, promote physical activity and accept human fragility as a good opportunity to rehabilitate the complexity of human being.

Finally, we'll conclude our communication about the main meanings of applied sport psychology. We'll not assume that means a sort of psychology that stands at last on solid ground. It means a psychology particularly fragile, and into which the waters of metaphysical criticism leak at every joint, a psychology whose elementary assumptions and data must be reconsidered in wider connections and translated into other terms. The proficiency's comprehensive approach clearly includes helping athletes enhance performances as well as helping athletes enhance their psychosocial health, development and well-being.

Sport psychology service delivery to danish olympic athletes: from professional philosophy to successful cases.

Organizer: Jens Meibom (Team Denmark, Denmark)

Discussant: Urban Johnson (Halmstad University, Sweden)

Denmark is a small country with large ambitions in international sport. As an elite sport institution, Team Denmark cooperates with the sport specific federations to coordinate all efforts to promote Danish elite sport and particularly Olympic Sport. One such effort is sport psychology service delivery.

In Denmark, the sports psychology profession has until recently been characterized by a diversity of approaches with little overarching consensus on the professional philosophy and intervention strategies among



consultants in the field. In 2008, Team Denmark decided to enhance the quality and consistency of applied sport psychology services in Danish elite sport by employing a permanent staff of sport psychologists and formulating an overarching professional philosophy.

In that sense, sport psychology service delivery was at a stroke reorganized from independent and privately working consultants to being included in the professional elite sport organization.

In this symposium some of the sport psychology practitioners, who are a part of the Team Denmark sport psychology team, recount some of the experiences gained through this transition.

Inside the professional philosophy of team Denmark's sport psychology service delivery.

Louise Schjellerup (Team Denmark, Denmark)

Kristoffer Henriksen (Team Danmark, Denmark)

Jakob Hansen (Team Danmark, Denmark)

Greg Diment (Team Danmark, Denmark)

Jens Meibom (Team Danmark, Denmark)

Until recently, there was little overarching consensus on the professional philosophy and interventions strategies among consultants in the sport psychology field in Denmark, and the quality of service delivered has varied in focus, duration and quality to a degree, where sport psychology has suffered a tarnished reputation among coaches and sports federations.

When, in 2008, Team Denmark established a sport psychology team with the aim to enhance the quality and consistency of applied sport psychology services, this team began their work by creating a professional philosophy, as suggested by Poczwadowski, Sherman, & Ravizza (2004). This paper describes the rationale, content, and implications of this philosophy, including: (a) basic beliefs and values of the sport psychology practitioner; (b) theories of intervention and behaviour change; (c) objectives of the sport psychology intervention, (d) the content and focus of the interventions, and (e) sport psychological services and methods. High quality service requires coherence across all five levels of the philosophy. This service delivery model has been widely implemented in Danish Elite sport. Implications of introducing the professional philosophy include a more unified service delivery across Denmark and the fact that sport psychology services are demanded more than ever in Danish elite sport.

Five steps to building a winning culture through an appreciative inquiry intervention: The case of the Danish female national handball team.

Jakob Hansen (Team Danmark, Denmark)

Kristoffer Henriksen (Team Danmark, Denmark)

The Danish female handball team has a long history of winning medals. From 1993 to 2004 they won three Olympic gold medals, one gold, one silver and a bronze medal at the World Championships and three gold and two silver medals at the European Championships. However, this winning streak came to a sudden stop when a new generation of players took over. From 2005, the team did not win any medals, a downturn that culminated in 2007 when the team did not even qualify for the world championship. The pedigree and legacy of the previous successful team became a burden for the new team of young players. In 2008 the Danish Handball federation and Team Denmark decided to start a comprehensive sport psychology intervention with the aim to build a winning culture on the team.

This paper describes how a new winning culture and team identity was developed from 2008-2010 with an appreciative inquiry (AI) intervention. Appreciative inquiry involves five steps: 1) definition, 2) discovery, 3) dream, 4) design, and 5) destiny. The intervention will be described step by step, and the output in form of the redefined team identity and the cultures shared values will be presented. The method (AI) will be discussed as an overall methodological framework and how it can help sport psychologist build culture in team sports and in training communities. The AI methodology offers a different way of bringing change and new stories to a team in adversity.



From prospect to Olympic athlete - The role of life-skills in the talent development process.

Carsten Hvid Larsen (University of Southern Denmark, Denmark)

Louise Schjellerup (Team Danmark, Denmark)

The coordinated efforts recently established by Team Denmark to apply sport psychological services to Danish athletes include a focus on teaching life skills to athletes, coaches, parents, schoolteachers, clubs and organizations in Denmark. Life skills play an important role in Team Denmark's efforts to help junior athletes make a successful transition to the senior elite level and make it as Olympic athletes. Life skills help athletes succeed in sport as well as non-sport settings (e.g. school), and Team Denmark acknowledges that to achieve top results athletes need to possess the necessary skills to handle the diversity of challenges they meet during everyday life as an athlete, in and out of sport. The aim of this paper is to describe the content and focus of applied life skills interventions in Danish elite sport, particularly interventions aimed at prospective Olympic athletes. In order to develop successful life skills programs, it is crucial to decide which life skills are important to include (Gould & Carson, 2008). Important life skills in the Danish program are time management, commitment, career planning, social skills / social support and being able to balance sport and other areas of life. This paper presents some of the exercises used by Team Denmark to teach such skills and shares examples and experiences from the life skills programs

Building relations in teams: an exercise.

Jakob Hansen (Team Danmark, Denmark)

Kristoffer Henriksen (Team Danmark, Denmark)

Greg Diment (Team Danmark, Denmark)

Building high performance teams and winning cultures includes relations management. From a Systems Theory perspective (Lewin, 1936), a sport team must be considered an organized whole that is so complex that it cannot be disassembled into parts without losing its central quality. We therefore need to shift focus from the individual athlete to the web of relationships that constitute the team or even the athlete's environment (Henriksen, Stambulova, & Roessler, 2010). Athletes and coaches involved need to be aware that individual identities are socially constructed and thus aware of how their behavior affects the rest of the team. In this last presentation of the symposium you will be given the opportunity to actively take part in a specific exercise that is suited for building such awareness in the team members.

Issues in the professional practice with sport officials.

Organizer: Gustavo Korte (Universidad Autonoma de Barcelona, Federação Paulista de Futebol, Brazil)

Discussant: Mattia Piffaretti (AC&T Sport Consulting / University of Geneva-ISMMS, Switzerland)

In the last decade, sport psychologists have strived to apply different practical approaches with sport officials, based on current state-of-the-art scientific knowledge. Indeed, referees in different domains have perceived a growing need for support to enhance their performances through the help of sport sciences and technologies in general. This symposium aims to continue the reflections that were started in Halkidiki in the FEPSAC congress (Piffaretti, 2007), by presenting new approaches and issues that sport psychologists face when working with officials. Helsen (2011) presents the practical work that he and his team have been conducting over the last years with FIFA assistant referees to improve their perceptual and decision-making skills in offside situations. Piffaretti & Stöckli (2011) tackle the current concern about the role of technological assistance in the decision-making process of referees, by giving a picture of the pros and cons of video-assisted refereeing as perceived by different stakeholders in Swiss professional ice-hockey. Finally, Korte (2011) presents the result of his study aiming to measure the acceptance of the applied work on the field with Brazilian Soccer Officials. The symposium aims to open discussion and debate on how classical sport psychology methods should be adapted to address the special population of referees and respond to their specific needs in different sport domains.

Training of perceptual-cognitive skills in offside decision making.



Werner Helsen (KU Leuven, Belgium)

This study investigates the effect of two different off-field training formats to improve offside decision making. One group trained with video simulations and another with computer animations. Feedback after every offside situation allowed assistant referees to compensate for the consequences of the flash-lag effect and to improve their decision-making accuracy. First, response accuracy improved and flag errors decreased for both training groups implying that training interventions with feedback taught assistant referees to better deal with the flash-lag effect. Second, the results demonstrated no effect of format, although assistant referees rated video simulations higher for fidelity than computer animations. This implies that a cognitive correction to a perceptual effect can be learned also when the format does not correspond closely with the original perceptual situation. Off-field offside decision-making training should be considered as part of training because it is a considerable help to gain more experience and to improve overall decision-making performance.

Use of technology in refereeing today and tomorrow.

Mattia Piffaretti (AC&T Sport Consulting, Switzerland)

This study examines both the practical and psychological advantages and disadvantages of using technology in refereeing based on the example of Swiss ice hockey. A secondary aim is to gain a better understanding of how the use of technology in Swiss ice hockey is perceived by its various stakeholders, both on and off the ice. To investigate this topic surveys with the three major stakeholders have been conducted. 13 of the 16 NLA head referees, 35 players, coaches and general managers from 6 different NLA Clubs and over 170 fans and spectators participated in the study. Today's use of technology in the Swiss ice hockey league is very well perceived and accepted by all stakeholders. The study has shown that if technology in refereeing is used in a clearly defined manner it can be of substantial help in raising the referee's overall performance and credibility and that the use of video analysis does not negatively impact upon the referees' authority. Existing research (Dorsch & Paskevich, 2007) shows that technology could help reduce two factors that cause referees' major stress namely the fear of failure and the fear of being physically harmed. The often heard negative impact that technology-led-refereeing disrupts the game flow does not appear to have been validated. To conclude therefore, it is clear that the potential benefits of technology-led-refereeing far outweigh its potential pitfalls, as long as the operating framework is clearly defined prior to its launch.

Researching professional officials in Brazil: challenges and breaking paradigms.

Gustavo Korte (Federação Paulista de Futebol, Brazil)

There are not many studies with professional soccer officials in Brazil and despite being the country of football, sport psychologists are not frequently found working with referees. The role of officials is very significant on the development of the game, although being the most criticized participants. The Sao Paulo State Soccer Federation (FPF) was the first one in Brazil to break this paradigm, hiring sport psychologists to do an applied work and research on their officials.

Ninety four elite referees participated in the research and 117 in the integrated training (mental, physical and technical training associated with practice on the field with soccer players). The objective of this research was to evaluate the effectiveness of the exercises and techniques we used during the 5 session training. The participants evaluated the training after five sessions. Twelve items were evaluated on a 11 items Likert Scale (0-10). The items evaluated asking how do you evaluate the pre-season mental training and its applicability on the field of play: Training of Attention (M= 8,73 SD=1,17), concentration (M=8,87 SD=1,18), Team Work (M= 8,89 SD= 1,01), Tension and pressure (M= 6,96 SD=2,17), Verbal Communication (M= 8,19 SD=1,47), Non Verbal Communication (M= 7,89 SD= 1,83), Interpretation of the situations (M=8,22 SD=1,31), Techniques Taught (M=8,65 SD=1,33), Communication style of the instructor (M=8,69 SD=1,18).

The objective of this presentation is to show how applied research could complement and direct applied work and as well indicate areas where we need to improve as professionals. We will be discussing challenges of doing this type of research.



The intrapersonal and inter-personal influence of perfectionism in sport.

Organizer: Howard K. Hall (York St John University, UK)

Discussant: Joan Duda (University of Birmingham, UK)

While perfectionism has been found to be positively associated with heightened achievement striving, it has also been found to have a number of potentially debilitating motivational consequences in sporting contexts (Hall, 2006, Hall, Hill & Appleton, 2011). This symposium presents findings from six recent studies examining the intra-personal and inter-personal consequences of different forms of perfectionism in athletes. The first two presentations build upon work examining the psychological mechanisms underpinning the association between perfectionism and athlete burnout (Appleton, Hall & Hill, 2009; Hill, Hall & Appleton, 2008). These studies consider how different forms of ruminative thought appear to influence this relationship. The third presentation considers a further psychological mechanism and examines how seemingly adaptive and maladaptive forms of perfectionism create different patterns of motivational regulation that mediate the perfectionism - burnout relationship. Because it has been argued that positive forms of perfectionism may not represent perfectionism, but may simply reflect conscientious achievement striving (Flett & Hewitt, 2006), the fourth presentation tested the conceptual and empirical overlap between these two constructs in a sample of athletes, using recommendations made by Marsh (1994). The fifth presentation furthers research by Haase, Prapavessis and Owens (2002), and examines how perfectionism influences self-presentational concerns and social physique anxiety in a sample of female exercisers. Finally, based on ideas put forth by Habke and Flynn (2002), the sixth presentation considers whether different forms of perfectionism influence conflict resolution in athletes, and moreover, whether different conflict resolution strategies mediate the relationship between perfectionism and group cohesion in sport teams.

The influence of perfectionism and rumination on burnout in junior elite gymnasts.

Howard K. Hall (York St John University, UK)

Research has identified that perfectionism may be a critical antecedent of athlete burnout (Appleton, Hall & Hill, 2009; Gould, Udry, Tuffey & Loehr 1996; Lemyre, Hall & Roberts 2008). Attempts to explain why perfectionism may have debilitating consequences in those who are striving to reach exceedingly high standards have focused on key psychological mechanisms which appear to be a consequence of this personality disposition. For example, conditional self-acceptance (Hill, Hall & Appleton, 2009), validation seeking (Hill, Hall & Appleton, 2010), and avoidant coping (Hill, Hall & Appleton, 2009) have all been found to mediate the relationship between socially prescribed perfectionism and burnout in elite junior athletes. Another important factor that may explain this relationship is rumination. Because perfectionists frequently report dissatisfaction with achievement, both goal non-attainment and perceived lack of progress are considered to underpin the ruminative thought processes (Martin & Tesser 1996) that lead to burnout. The purpose of this investigation was to examine the relationship between perfectionism, rumination and athlete burnout in junior elite gymnasts. 101 female gymnasts (Mean age = 14.4 SD = 2.0) completed a multi-section instrument that included Hewitt and Flett's (1991) Multi-dimensional Perfectionism Scale, Raedeke and Smith's (2001) Athlete Burnout Questionnaire and Trapnell and Campbell's (1999) Rumination Scale. Hierarchical regression analyses revealed that self-oriented perfectionism was negatively and significantly associated with reduced accomplishment, emotional exhaustion and depersonalisation, while socially prescribed perfectionism was positively associated with emotional exhaustion and depersonalisation. Over and above the contribution of perfectionism, rumination significantly predicted reduced accomplishment.

The mediating influence of rumination on the relationship between perfectionism and athlete burnout.

Tom Curran (York St John University, UK)

Previous research has demonstrated that dispositional perfectionism can account for athlete burnout variability. However, to date, little is known about the possible mediating processes. This study sought to determine the indirect effect of components of perfectionism on athlete burnout through ruminative cognition. Full and partial mediation models were tested with 147 young (M age = 15.94, SD = 1.20, range = 13-19) elite male soccer players. Athletes completed measures of perfectionism, rumination, and athlete burnout. Path analysis revealed both partial and full mediation models possessed good fit and a



chi-square difference test supported the parsimony of the partial mediation model. Others high demands positively predicted rumination, which positively predicted athlete burnout. In contrast, perfectionistic striving predicted decreases in rumination. Direct effects for importance of being perfect on rumination and athlete burnout were non-significant. Indirect effects for others high demands and perfectionistic striving on indicators of athlete burnout via rumination, were significant. Findings suggest that others high demands may endanger athletes to burnout via heightened ruminative cognition, whereas perfectionistic striving may safeguard them from the syndrome via lower ruminative cognition. Because the importance of being perfect did not predict lower rumination or athlete burnout, the findings also offer the possibility that not all components of self-orientated perfectionism are adaptive in sport.

Perfectionism and burnout: the mediating influence of motivational regulation.

Gareth Jowett (York St John University, UK)

Certain dimensions of perfectionism appear to be motivational antecedents of athlete burnout, whereas others appear inversely associated or unrelated to athlete burnout (Appleton, et al., 2009; Hill et al., 2008; Hill et al., 2010). Dimensions of perfectionism also appear to contain salient motivational components (Hewitt and Flett, 1991). Consequently, motivational regulation may help to explain the associations between perfectionism and burnout. In accord, the current study aimed to investigate the association between broad dimensions of perfectionism and athlete burnout, and the mediating influence of motivational regulation. 211 elite junior athletes (M age = 15.61 yrs, SD = 1.73 yrs) completed measures of the multidimensional perfectionism (Cox, Enns, & Clara, 2002; Dunn et al., 2006), athlete burnout (Raedeke & Smith, 2001), and motivational regulation (Lonsdale, Hodge, & Rose, 2008). Structural equation modelling revealed that self-determined motivational regulation partially mediated the relationship between perfectionism and burnout. PSP was directly negatively associated with burnout, and higher levels of PSP were positively associated with self-determined regulation, which in turn was inversely associated with burnout. In contrast, ECP was directly positively associated with burnout, and higher levels of ECP were associated with lower levels of self-determined regulation, which in turn were negatively associated with burnout. The findings suggest that self-determined regulation may underpin the opposing associations between PSP, ECP dimensions and burnout.

Conceptual and empirical overlap between positive perfectionism and conscientiousness.

Andrew Hill (York St John University, UK)

Whether perfectionism can exist in a positive form is currently the source of debate. Positive perfectionism is purported to be a set of cognitions and behaviours directed to high levels of achievement by approach tendencies and the possibility of positive consequences (Slade & Owens, 1998). However, a number of psychologists have argued that when defined in this manner, the difference between perfectionism and adaptive forms of achievement striving is unclear. The purpose of the current investigation was to examine whether positive perfectionism and conscientious achievement striving can be considered to be indicative of the same underlying construct. One-hundred and seventy-eight junior basketball players (age M = 16.50, s = 1.12, range 12-19) recruited from basketball clubs in the UK completed measures of positive perfectionism, conscientious achievement striving and a number of additional variables. Analyses revealed that positive perfectionism and conscientious achievement striving were highly positively correlated and demonstrated a similar pattern of relationships with the other measured variables. However, a single latent factor model provided a comparatively poor fit than a two latent factor model. The findings suggest that while there is considerable overlap between the two constructs, there may also be potential differences.

Self-presentation concerns and body related perceptions of perfectionistic female exercisers.

Emine Caglar (Kirikkale University, Turkey)

F. Hülya Aşçı (Baskent University, Turkey)

This study examined self-presentation concern and body related perceptions of female exercisers as a function of age and socially-prescribed perfectionism. Participants were 230 female exercisers (M age = 36.99, SD = 10.77 years). An inventory measuring Socially-Prescribed Perfectionism (SPP), Social Physique Anxiety (SPA), Body Fat and Appearance (using the Physical Self-Description Questionnaire) and Self Presentation in Exercise (SPEQ) was administered to all participants. Participants were categorized into two age groups as



those \geq 35 years of age and those $<$ 35 years of age, and further classified into low and high SPP groups based on a median split. MANOVA revealed significant main effects for age (Hotelling's $T^2 = 0.05$; $F(2, 195) = 5.18$; $p < 0.01$) and socially prescribed perfectionism (Hotelling's $T^2 = 0.05$; $F(2, 195) = 4.87$; $p < 0.01$) for body related perception. Follow up univariate ANOVA showed significant differences in the perceived body fat favouring the high SPP group and those above 35 years of age ($p < 0.01$). MANOVA also indicated a significant multivariate main effect of SPP groups for self-presentation concern (Hotelling's $T^2 = 0.08$; $F(2, 208) = 5.18$; $p < 0.01$). Follow up analysis indicated significant SPP group differences in impression motivation favouring high SPP group ($p < 0.01$). A 2×2 (age groups \times SPP groups) ANOVA yielded significant differences in social physique anxiety between SPP groups ($F(1, 226) = 4.47$; $p < 0.05$), with the high SPP group reporting higher scores in SPA. As age and socially prescribed perfectionism increase, female exercisers evaluate their bodies negatively. In addition, high socially prescribed perfectionism increases impression motivation and social physique anxiety in female exercisers.

Examining the interpersonal effects of perfectionism in sport.

Paul Appleton (Birmingham University, UK)

To date, no study has examined the inter-personal effects of perfectionism in sporting contexts. The purpose of the current study was to address this shortcoming, and determine whether athletes' behavioural responses to conflict mediated the relationship between perfectionism dimensions and group cohesion. 346 (207 = males, 139 = females) athletes (M age = 26.5, $SD = 7.32$) participated in this study. Athletes represented a variety of team-based sports and were associated with amateur sport teams in England. Perfectionism was measured using Hewitt and Flett's (1991) Multidimensional Perfectionism Scale, group cohesion with the Group Environment Questionnaire (Carron, Brawley, & Widmeyer, 1985), and behavioural responses to conflict with the Conflict Dynamics Profile (Davis, Capobianco, & Kraus, 2004). Using path analysis, the tested model provided an acceptable fit ($\chi^2(13) = 43.70$, $p = .000$, $\chi^2/df = 3.36$, $RMSEA = .08$ (90% CI = .06 to .11), $SRMR = .04$, $CFI = .96$, $IFI = .97$). The model showed that the relationship between self-oriented perfectionism and group cohesion was mediated by active forms of conflict resolution. The relationship between socially prescribed perfectionism and group cohesion was mediated by constructive (negative path) and destructive (positive path) forms of conflict resolution. Finally, the relationship between other-oriented perfectionism and group cohesion was mediated by passive constructive and passive destructive (negative paths) and active destructive (positive path) conflict resolution strategies. The results provide initial support for the debilitating inter-personal effects of socially prescribed and other-oriented perfectionism in sport.

Dynamics of group relations in interactive team sports.

Organizer: Filip Boen (K.U.Leuven, Belgium)

Discussant: Filip Boen (K.U.Leuven, Belgium)

It is often claimed that 'group dynamics' is a much investigated topic in sport psychology. However, many of the studies involved do not seem to be very dynamic of nature. For example, they rely on static measurements, they do not consider the interaction between personality and situational variables, they take only one theoretical framework into account, they focus on just one sport, etc. Each of the presentations in this symposium will highlight one important and specific methodological characteristic of dynamic research on group relations. Moreover, all of these presentations will present data from interactive team sports (e.g., basketball, ice-hockey, handball, volleyball, and soccer), where the complexity of group relations is of course very high.

Emotional contagion in team sports.

Erwin Apitzsch (Lund University, Sweden)

Preliminary results on studies of collective collapse in team sports have shown that the communication within the team decreases and becomes negative when a team experiences the shift from being in a seemingly safe lead to losing the game (Apitzsch, 2009). Furthermore, the negative atmosphere in the team spreads, including players on the court, coaches, and substitute players. Although players before a game have agreed on being positive and encouraging towards teammates in times of adversity, this does not happen during the game. The explanation is that it is difficult to encourage others when you are not playing well



yourself. Therefore, more powerful measures should be used to produce a change in team spirit in such situations.

Since emotion is a social phenomenon, transmitted from one person to another person (Barsade, 2002), it is hypothesized that spreading positive emotions would be a counter measure in order to bring about a change in a team, which faces an emotionally negative atmosphere.

Thus, a study was conducted with the aim 1) to survey which emotions are most prevalent when a team performs well and badly, and by whom the players are most influenced by in these situations, and 2) to identify a skillful player, who is rated high on influencing the teammates positively and low on influencing them negatively, and give him the role of being the encourager when the atmosphere is negative. Participants were players of an elite male handball team.

The results will be presented at the conference.

The relationship of team cohesion and precompetitive emotions in male interactive team sport athlete.

Svenja Wolf (German Sport University Cologne, Germany)

Jens Kleinert (German Sport University Cologne, Germany)

When it comes to optimizing athletic performance, one of the most influential factors is the athlete's precompetitive emotional state. Whereas a positive anticipatory emotion like excitement may indeed facilitate performance, a negative response like anxiety may substantially debilitate performance. Within interactive sports however, another critical factor is the quality of the athletic team within which the individual athlete competes. One attribute deemed essential for success is the level of team cohesion. This study set out to investigate the role an athlete's perception of team cohesion plays with respect to his precompetitive emotional state.

Competitive male athletes (N = 143; M = 20.79 years, SD = 1.78) from 11 Canadian College or University teams (37.1% Ice Hockey, 34.3% Volleyball, 28.7% Basketball) completed the Group Environment Questionnaire, the directional modification of the Competitive State Anxiety Inventory-2 as well as a measure of precompetitive appraisal approximately one hour before going into an in-season game.

Within preliminary analyses, team cohesion did not emerge as a significant predictor of the athletes' precompetitive anxiety level. Instead, we found trait anxiety (changes in $r^2 = .07 - .47$, $p = .024 - .001$), age and sport type (changes in $r^2 = .08 - .13$, $p = .012 - .001$) as main predictors,

Hence preliminary evidence suggests, that even among highly interdependent team sport athletes, the quality of the team as indicated by task and social team cohesion does not interact directly with precompetitive anxiety. Further analyses should determine, whether indirect processes (i.e., cohesion as a moderator) are plausible.

A team is not always a dream: How can coaches reduce social loafing in team sports?

Maarten De Backer (K.U.Leuven, Belgium)

Bert De Cuyper (K.U.Leuven, Belgium)

Rune Hoigaard (Agder University, Norway)

Gert Vandebroek (K.U.Leuven, Belgium)

Filip Boen (K.U.Leuven, Belgium)

Social loafing refers to individuals' tendency to exert less effort when working with others than when working alone (Chidambaram & Tung, 2005), which will usually result in a decreased team performance. Previous research on social loafing in sports focused only on coactive teams, such as relay swimming teams. Moreover, traditional interventions to reduce social loafing in team sports concentrated on individual-based factors such as the perceived identifiability and indispensability of one's own performance. More recently however, the importance of variables generating group dynamics, such as team cohesion, has been emphasized. In our own work, we further elaborate this group perspective to prevent perceived social loafing, and try to identify determinants of perceived and self-reported social loafing in interactive sports. First, from a social identity perspective (Haslam, 2004) we propose that it is important to distinguish between the concepts of cohesion and team identification, and we claim that promoting identification is more effective than promoting cohesion. Second, we explore the role of the coach-related variables and suggest that coaches should be need supportive, should generate a task-oriented environment rather than an ego-oriented environment and should try to ensure perceptions of justice of their coaching. We will present results from three studies confirming



these hypothesized relations in Belgian and Norwegian samples of female team sports athletes (basketball, football, handball, volleyball, and show-dancing).

Does Psychological Momentum in female elite handball exist?

Karin Moesch (Lund University, Sweden)

Psychological Momentum (PM) is still considered an elusive concept in sport psychology. Evidence shows that coaches and athletes consider PM as a powerful determinant of game outcome (Stanimirovic & Hanrahan, 2004). However, many studies failed to confirm that positive or negative periods exist during matches that exceed randomness (e.g. Gilovich et al., 1985). The aim of this study is to investigate whether data of elite female handball matches show deviations from randomness and serial correlation.

Twenty-two matches from the final round in Sweden were analysed. Data were taken from a programme that delivers time-specific data about all actions performed during matches. In a pilot study, 49 female elite players rated on a Likert scale from 1 (very negative) to 7 (very positive) how those actions influenced the psychological state of their team. The results of that study were implemented in Runs Tests and Autocorrelations.

Thirteen percent of all matches showed significant deviation from randomness when counting Runs Test; meanwhile 20% of the matches revealed significant serial correlations. It can be concluded that positive and negative PM exist in some matches of the final round.

What counts for identification? Differences in dimensions of social identity between sport teams, families and friendship groups.

Jens Kleinert (German Sport University Cologne, Germany)

Chloé Kleinknecht (German Sport University Cologne, Germany)

Following the ideas of social identity theory (sensu Tajfel & Turner) and optimal distinctiveness theory (sensu Brewer), group identification is a function of in-group vs. out-group distinctiveness, in-group similarities, and personal vs. in-group distinctiveness. Based on this tripartite identification definition, the present study aims to find out whether these three parts are of different importance in sport teams compared with other typical group settings (family, friends).

174 sport students (age $M = 21.1$; $SD = 2.1$; 48.6 % female) filled out a 12-item questionnaire. 43.7 % participants answered the questions in regard to their sport team (38.5 % family, 17.8 % friends). The scale was theory-driven divided into the three parts group distinctiveness, group similarities, and personal distinctiveness. Each part contained four items regarding properties, attitudes, preferences, and goals of the group respectively the person him- or herself.

Since a confirmatory factor analysis failed to prove the theoretical structure the questionnaire was restructured using an exploratory factor analysis. We found three factors group distinctiveness (as theoretically expected), behavioural distinctiveness (preferences, goals), and personal distinctiveness (attitudes, properties). Behavioural and personal distinctiveness were significantly correlated ($r = .51$). In sport teams behavioural distinctiveness was lower than in families or friendship groups (eta-squared = .23). Furthermore, group distinctiveness was lower in sport teams than in families (eta-squared = .05).

Our results show, that group identification in sport teams is especially connected with behavioural homogeneity, which is supposedly correlated to cohesion. Moreover, differentiation from other sport teams is an obviously less important factor.

Individual differences and social loafing among female elite team players.

Bert De Cuyper (K.U.Leuven, Belgium)

Rune Hoigaard (Agder University, Norway)

Derek Peters (University of Worcester, UK)

Tommy Haugen (Agder University, Belgium)

Maarten De Backer (K.U.Leuven, Belgium)

Filip Boen (K.U.Leuven, Belgium)

Objective: To examine how two individual difference variables - i.e., perfectionism and goal - orientation - relate to the perceived reduction of the own level of effort in team sports. We hypothesized that the relation



between perfectionism and self-reported social loafing is mediated by goal orientation.

Design:

Cross-sectional survey with psychometrically sound measurements.

Method:

Questionnaires of positive and negative perfectionism, ego and task goal orientation, and self-reported social loafing were administered to female elite team players (110 Norwegian handball players and 142 Belgian volleyball players).

Results:

The total mediation model explains 13 % of the variance in social loafing ($R^2 = .13$, $F = 13.98$, $p < .01$). Bootstrap results of indirect effects using the Multiple Mediations- macro for SPSS (Preacher & Hayes, 2008) supported the mediation hypothesis: higher levels of negative perfectionism predicted higher levels of self-reported social loafing indirectly through high levels of ego goal orientation. On the other hand, higher levels of positive perfectionism predicted decreased levels of self-reported social loafing through higher levels of task goal orientation.

Discussion:

Previous research has predominantly investigated social loafing in relation to situational variables. Even if only a limited proportion of the variance of self-reported social loafing is explained by the individual difference variables, it seems promising to incorporate personality variables to further explore the potential causes of loafing.

Tactics in sport games.

Organizer: Heiko Lex (Bielefeld University, Germany)

Discussant: Matt Dicks (German Sport University, Germany)

The team performance in sport games is made up by a combination of various technical-tactical as well as physical-coordinative parameters. The question is why players are unable to make the right decision in the right moment, and choose for the adequate tactic. It is suggested that higher order cognitive parameters of movement organization play a fundamental role to realize the stipulated tactics during competition. Compared to technical and physical performance parameters the research regarding tactics in sport games and the analysis of the relevant cognitive variables stands right at the beginning of a broader development. The aim of this symposium is to compile results of different studies of tactics in sport games which rely on knowledge and perception bases, and to make comprehensive claims regarding the underlying mechanisms. Once distinct mechanisms are uncovered, ecological applications can be developed to enhance human performance in sport games. On the one hand this symposium tries to elucidate the complexity of tactics in sport games by measuring ball and player position on the soccer pitch. Supplementary, explanations of representations of team specific tactics in human long term memory are further specified. On the other hand, the influence of items kept in working memory on tactical decision making in basketball is clarified. Therefore, attentional distractions occurring during tactical decision making in sport games are investigated. Additionally, the mediating effects of visual information processing in golf are discussed with regard to benefits of external foci.

Complexity of tactics in soccer.

Rafel Pol (Universitat de Barcelona, Spain)

Robert Hristovski (Skopje University, Macedonia)

Natàlia Balagué (Universitat de Barcelona, Spain)

The study of tactics in soccer has been classically based on the decomposition of the game, the detection of static patterns and the analysis of discrete variables that inform about some characteristics of the match. Instead of following a reductionist approach we propose to study aspects of the complexity of tactics in soccer. Our purpose is recognizing the collective variables that describe the behavior of the teams during the game at different scales, searching the interactive patterns and their transitions and identifying the change of attractors over time in function of different control parameters. With this purpose we analyze the statistical correlations between the position of the ball and the position of the players from each team respect the ball



possession in soccer matches. The analysis allow us recognizing some affordances for the teams to achieve positional and/or numerical superiority, which is related with the opportunities to score a goal and one of the most important information required by the coaches.

Cognitive representation of team specific tactics in soccer.

Heiko Lex (Bielefeld University, Germany)

Dietmar Pollmann (Bielefeld University, Germany)

Andreas Knoblauch (Honda Research Institute Europe, Germany)

Thomas Schack (Bielefeld University, Germany)

It is difficult to investigate information processing linked to players tactical behavior in team sports like soccer. Usually, team specific tactics are modeled by post-hoc video-analyzes focusing on different tactical performance indicators and latent variables (Garganta, 2009). It can be assumed that with regard to movement organization appropriate cognitive reference structures of complex motor actions (i.e. cognitive representations) provide a basis for action control in skilled voluntary executed movements (Schack & Mechsner, 2006). This study investigates whether these cognitive representations are as well established for team specific tactics in soccer (i.e. counter attack, change sides, back to defense, pressing) with regard to players expertise. Participants (N=46) judged in a successive splitting procedure twelve different situations displayed on a tactical board regarding similarity of required tactical behavior. Participants' decisions informed about the proximity between different situations, and formed the basis for an unweighted average cluster analysis ($p=.01$, $d_{crit}=4.552$) complemented by invariance measure testing for structural homogeneity ($c_{crit}=.68$). The results, in form of tree-like structures (dendrograms), of the male team ($n=20$) showed a hierarchical organization of all four team tactics, which fits their functional specifications ($p=.01$, $O=1.0$), and their coaches representation ($n=2$). In comparison, cognitive representation of female players ($n=23$) was organized less hierarchically and less matched with functional demands ($p=.01$, $O=.50$). They distinguished only between offensive and defensive team tactics. In a nutshell, this new experimental approach measuring individual cognitive representation of team tactics in soccer reveals a well-integrated network of single tactical situations that each corresponds to functional meaningful team tactics.

The role of working memory in tactical decision making in sports.

Philip Furley (German Sport University, Germany)

Daniel Memmert (German Sport University, Germany)

Both experimental and differential psychological studies have established a close link between working memory (WM) and attention. Drawing on findings from the biased competition theory (BCT: Desimone & Duncan, 1995) of selective attention and the controlled attention theory of WM (CAT: Engle, 2002) we argue that WM is a useful construct for understanding tactical decision making in sports. In a first series of studies we provide evidence in line with BCT by showing that the contents of WM bias the allocation of attention towards stimuli that are associated with the contents of WM. In our experimental paradigm, we asked participants to hold information in WM (controlled for by a memory probe question) before they are asked to engage in a detection task or a tactical decision making task. The results suggested that both detection and tactical decision making can be biased by the contents of working memory, with items related to or close to items held in WM having a competitive advantage over other items. In a further study we tested the predictions of the CAT in a basketball specific decision making task under distraction conditions. CAT states that working memory capacity (WMC) tasks measure an individual's ability to control his attention and are therefore predictive of performance on a range of cognitive tasks. In line with CAT we found that individual differences in WMC are predictive of tactical decision making performance, with high WM athletes being better able at staying focused on decision making and blocking out irrelevant distraction.

“Examination of the mediating effects of visual information on the benefits of external focus”.



William Land (Bielefeld University, Germany)
Gershon Tenenbaum (Florida State University, USA)
Paul Ward (Michigan Technological University, USA)
Robert C. Eklund (Florida State University, USA)
David W. Eccles (Florida State University, USA)

In recent years, a considerable amount of research has been conducted to delineate the effects of attentional focus on task performance (e.g., Wulf, 2007a). From this research, external focus has been shown to be beneficial to both motor learning and performance. Less clear, however, are the mechanisms through which external focus benefits performance (Poolton, Maxwell, Masters, & Raab, 2006). Traditionally, an information-processing perspective (e.g., common-coding theory) has suggested that external focus facilitates performance by triggering associated sensorimotor representations responsible for motor production (Wulf & Prinz, 2001). More recently, however, a constraints-led perspective has suggested that external focus aids performance through facilitating attunement to environmental affordances (Davids, Button, & Bennet, 2008). Consequently, the purpose of the present study was to examine the extent to which online visual information underpins the advantage of external focus. The study examined skilled golfers ($n = 30$) on a putting task under one of three attentional focus conditions (control, irrelevant, and external). Additionally, participants performed under full and occluded vision. Results indicated that participants using an external focus performed significantly better (i.e., made more putts) than participants in the control or irrelevant focus conditions. Furthermore, visual information did not mediate the extent to which external focus impacted performance. Overall, results did not support the notion that external focus facilitates attunement to affordances through the use of visual information. In contrast, the results are more in line with traditional accounts of external focus effects.

Using the olympic and paralympic games to raise physical activity and sport participation.

Organizer: Mike Weed (Canterbury Christ Church University, UK)
Discussant: Martin S Hagger (Curtin University, Australia)

Among the six legacy promises for the London 2012 Olympic and Paralympic Games is a promise to "Make the UK a world-leading sporting nation". Although part of this promise relates to elite achievement, it also includes headline ambitions to use the Games to "Inspire young people through sport" and "Get people more active". While these are laudable ambitions, they have been criticised on the basis that no previous Games has raised physical activity and sport participation. However, it is true only that no evidence has been presented from previous Games showing that participation has been raised (this is not the same thing as not having raised participation). Furthermore, no Games prior to London had employed strategies towards raising physical activity or sport participation.

This symposium explores the evidence and potential for the Olympic and Paralympic Games to raise physical activity and sport participation. Firstly, Stuart Biddle provides an overview of mechanisms by which choices to engage with physical activity and sport have been shown to be influenced, outlining models that might underpin strategies to use the Games to raise participation. Secondly, Mike Weed presents the results of a worldwide systematic review of research evidence suggesting that there are two processes by which the Games may raise participation: a demonstration effect and a festival effect. Finally, Mustafa Sarkar outlines the development of a sport-matching tool designed to encourage people to try new Olympic sports by offering suggestions based on current and desired physical activity levels, sporting preferences, personality and skill

Two weeks to change the world: Key influences on young people's physical activity participation.

Stuart Biddle (Loughborough University, UK)

The aim to create a strong legacy of the 2012 Olympic and Paralympic Games in London for children's participation in sport and physical activity is one that few can disagree with. It is a noble aim but one that requires much deeper thought as to how such a bold ambition can be achieved.

In the literature concerning young people's physical activity participation, we can draw on several perspectives and frameworks to assist us in our thinking. In this presentation, three main areas will be covered in an effort



to better understand how an Olympic/Paralympic Games might influence participation. First, the behavioural epidemiological and ecological frameworks will be summarised to provide an overview of key issues and processes for behaviour change. Second, review level evidence on the key correlates of participation will be outlined. This highlights what interventions might need to focus on for successful behaviour change. Finally, a commentary will be provided on intervention effectiveness and some of the challenges to creating behaviour change at the population level.

How can the Olympic and Paralympic Games influence physical activity and sport participation.

Mike Weed (Canterbury Christ Church University, UK)

This paper uses a systematic review methodology to examine the evidence base for developing physical activity and sport legacies from the Olympic and Paralympic Games. It addresses three key questions: (1) What evidence exists that the Games can impact upon physical activity and sport participation; (2) By what processes have physical activity and sport participation been leveraged from previous Games; (3) What processes that have been used to leverage other behaviours (e.g. volunteering, community engagement, tourism) through the Games might inform the leveraging of physical activity and sport participation.

The review shows that there are two distinct processes by which the Olympic and Paralympic Games might impact upon physical activity and sport participation. Firstly, for sport and the most formal physical activity, a demonstration effect can use elite sport, sports people and sports events to inspire people to do more sport, or to re-engage lapsed sports participants. Secondly, for general physical activity and the most informal sport-related activities, a festival effect can build a sense of community involvement in the occasion to promote active celebration of the Olympic and Paralympic festival. However, because the demonstration effect works through sport messages and values whilst the festival effect de-emphasises sport and health messages to promote the Games as bigger than and beyond sport, the two processes can interfere with each other. In fact, demonstration effect messages using elite sport can actually reduce the likelihood of physical activity engagement in sedentary adults due to a perceived competence gap.

The NHS Choices Olympic Tool: a case study of research impact and Olympic legacy.

Mustafa Sarkar (Loughborough University, UK)

James L Rumbold (Loughborough University, UK)

Rachel Arnold (Loughborough University, UK)

David Fletcher (Loughborough University, UK)

While the London 2012 Olympic Games provides an opportunity to raise sport and physical activity participation levels, to the best of our knowledge, existing illustrations of how this legacy can potentially be achieved has yet to be provided by practitioners. The purpose of this presentation is to outline the development of the recent NHS Choices Olympic tool. This instrument has been designed to match individuals to the sports which suit them best based on the responses they give. Three main areas of the project are explored in an attempt to demonstrate a case study of research impact and Olympic legacy. Firstly, the tool development process is outlined. This section provides an overview of the various areas of assessment including, current and desired physical activity levels, sporting preferences, personality, skill acquisition, and mental toughness. Secondly, post-project reflections are offered regarding the creation of an online tool for a health-related organization with various stakeholders involved in the process. More specifically, the challenges of developing a scientifically rigorous instrument whilst also meeting the requirements of the NHS are discussed. Thirdly, a critical appraisal of the tool's potential impact on wider society and people's quality of life is presented, drawing on the project's current outreach and effectiveness. Grounded in this evaluation, it is suggested that the NHS Choices Olympic tool may encourage sport and exercise participation and accordingly play a small role in the Olympic legacy, providing it is accompanied by systematic behaviour change interventions.





Porto Santo Island, with its delicate golden beach, is a delight to visitors, inviting them to swim and relax in the warm sea. Porto Santo Thalassotherapy Centre offers a varied range of water and massage treatments, for a very relaxing holiday.



 Posters







PI.01

The Effect of Super Chess Games on the Density of Salivary Cortisol and Behavior in Elite Man Players.

Alireza Rahimi (Azad University, Iran)

Purpose:

The purpose of this research the effect of super chess games on the density of salivary Cortisol and behavior in elite man players.

Materials and Methods:

In order to this purpose from 60 participants in super chess games 35 of them within ages 20-40 were selected through the way of selection method. Method of Research: since in this research, the cause and effect relation between dependent and independent variables was in mind, this study can be experimental, but, it seemed, some factors were out of control. So we categorized as semi – experimental research. POMS questionnaire in order to subject's profile of mood states and salivary Cortisol sampling for measuring the density of salivary Cortisol were carried out in 8 steps between 9 to 14 pm. (before one week beginning of games, before and next every game, and next one week game).

Results:

The result has shown that during whole chess games density of salivary Cortisol in majority of periods has exist which the most amount of Cortisol' density is related to second half of competition. Another finding of this research is related to behavior changes and disorders that totality behavior disorders after game toward the amount of it before game has increased. Increasing of behavior disorders in chess competition because of heavy pressure and limitation in time.

Discussion:

Whatever the game become longer the possibility of changes significant variation on the density of salivary Cortisol, But it had no effect on the total of disorders and behavior of participants. There was no difference of Cortisol and behavior.

PI.02

Study of Salivary Cortisol Concentration Pre-Competitive in Positions of Game in Professional Soccer Players.

Birgit Keller (Universidade Federal do Paraná, Brazil)

Flávia Brenner Focaccia Justus (Universidade Federal do Paraná, Brazil)

Chayane Godoy (Podium, Brazil)

Andressa Melina Becker da Silva (Universidade Federal do Paraná, Brazil)

Ricardo Weigert Coelho (Universidade Federal do Paraná, Brazil)

Purpose:

Check the difference between salivary cortisol concentration pre-competitive with the different positions of the game.

Methods:

Ex Post Facto study design. Participation of 31 professional soccer players, male, aged 19 to 35 (M=23.64, SD=4.05). Stress was accessed by salivary cortisol (Salivette®), consisting of a plastic tube containing a roll of cotton high absorption. The kit DSL-10-671000 ACTIVE® Cortisol Enzyme Immunoassay (EIA) was used for saliva analysis. To analyze the data a descriptive and ANOVA were employed to a predictive level of p<.05.

Results:

It is observed that the mean cortisol concentration of the side players was the highest (M = 0.191, SD = 0.11 imdl), followed by athletes from the midfield (M = 0.172, SD = 0.14 imdl) center forward (M = 0.151, SD = 0.13 imdl), fullbacks (M = 0.135, SD = 0.09 imdl) and last the strikers (M = 0.084, SD = 0.07 imdl). But there was



no significant difference between cortisol concentration and the different positions of the game $F(5,27) = 0.078, p = 0.575$.

Conclusions:

For this study, there was no causal comparative relationship between salivary cortisol concentration pre-competitive and the game positions. The highest concentration of cortisol from the side players can be justified because they are closer to the crowd and the coach, where they just end up practicing a role of "spokesman" of the coach with the other athletes on the team, receiving negative reviews in most cases. Other studies should be conducted with different populations to confirm these results.

P1.03

Expert-novice differences in SMR activity during dart throw.

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Li-Chuan Lo (The University of Maryland, Taiwan)

Chung-Ju Huang (Taipei Physical Education College, Taiwan)

Tsung Min Hung (National Taiwan Normal University, Taiwan)

Sensory Motor Rhythm (12-15Hz) originates in the somatosensory relay nuclei of the thalamus, known as ventrobasal nuclei, and related to inhibition of afferent thalamic somatosensory information. According to recent neurophysiological findings, SMR has negative correlations to activity in the sensorimotor area. Furthermore, SMR is associated with reduced external information input. Based on this evidence, SMR activity seems to correlate with the concept of automaticity. Until now, studies have not examined the relationship between SMR and precision sport performance; thus, there was an absence of understanding about SMR activation during tasks requiring high levels of attention and stability (e.g. dart throwing), and the possible relationship with automaticity. This study hypothesized that SMR plays a critical role in dart throwing performance. Thirteen elite dart shooters and twelve novices were recruited for this study. 2(group) x 3(time) mixed design ANOVA was utilized to examine the relationship between the SMR activity of dart shooters and novices. No interaction effect was found. However, it is significant that the experts maintained a relatively higher SMR power than the novices before dart release. These results support the use of SMR as an index of skill automaticity. This finding provides potential for interventions based on the manipulation of SMR, such as neurofeedback training, which further examine the relationship between SMR activity and precision sport performance.

P1.04

A Comparison of EEG Alpha Power between Successful and Failed Putts for an Amateur Golf Player.

Jung-Huei Lin (National Ilan University, Taiwan)

Shih-Chun Kao (National Taiwan Normal University, Taiwan)

Huei-Ying Chen (Chang Gung Institute of Technology, Taiwan)

Chung-Ju Huang (Taipei Physical Education College, Taiwan)

Tsung-Min Hung (National Taiwan Normal University, Taiwan)

The "neural efficiency" hypothesis is characterized by reduced cortical activity during the preparatory period for expert golf players. This study compared EEG alpha power in the sensorimotor area between successful and failed golf putts. A 49-year old male amateur player with 19 years of competitive experience participated in this study. The participant completed 100 putts on a synthetic grass surface, with EEG collected during the pre-putt period. In reference to the IAF (individual alpha frequency), the sub-bands were categorized as low alpha-1 (5-7 Hz), low alpha-2 (7-9 Hz), and upper alpha (9-11 Hz). A paired sample t-test was used to compare the EEG power three seconds before putting which corresponded to the 25 successful putts and the 25 failed ones, at the three frequency bands. The results showed that compared with the failed putts, the average power of alpha-1 for the successful putts decreased in C3 and Cz during the first second before putting; and alpha-2 increased in the same areas during the third second before putting; and upper alpha decreased in C3, Cz, and C4 during the second second before putting. The findings of this study indicate that activation of the primary sensorimotor area (C3 and C4) and supplementary motor area (Cz) before putting moment is associated with successful putts. This does little to support the "neural efficiency" hypothesis but it is in line with findings from the previous studies of Hung (2004) and Endo (2006).



PI.05

Effects of Central Alpha Neurofeedback Training on Golf Putting.

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Jhih-Kuan Huang (Taipei Municipal University of Education, Taiwan)

Tsung-Min Hung (National Taiwan Normal University, Taiwan)

Neurofeedback training has been used to improve performance in various kinds of sports, particularly closed skilled sports such as archery, air pistol shooting, and golf, due to their heavy demand on mental skills. Past studies have found that alpha-ERD in the central area of the brain is related to successful golf putting. This study attempted to further investigate the role of central alpha in golf putting performance through neurofeedback training. Three experienced golfers participated in this study. Two of them were subjected to neurofeedback training twice or three times per week, for 30 minutes at a time. The remaining subject served as a control and received no training. A single-subject multiple baseline design was adopted for this study. Putting performance and EEG were assessed before, during and after the neurofeedback training for the two subjects, and the controlled subject was only assessed during the baseline period. The study found that (1) putting performance of trained participants improved and there was a decrease in their Cz alpha-ERD, during the intervention period, and (2) the improvement in putting performance was maintained even after the training was over.

PI.06

Effect of exercise intensity on palm sweating rate in humans.

Masami Hirashita (Kanazawa Gakuin University Japan)

Yoko Kajiwara (Bunkyo University Japan)

Saburo Yokokura (Meisei University Japan)

It is understood that sweating on the palm is, unlike thermal sweating, regulated by nonthermal factors, such as mental activities. We examined how sweat rate (SR) on the palm during exercise was influenced by exercise intensity and examined vasodilatory response at the same time. Each subject sat in a reclined seat on the back of a bicycle ergometer with both arms kept on the arm rests suspended from the ceiling and at the same level of the heart position. The subjects rested for more than 30 minutes, and then they performed bicycle ergometer exercise in the reclined position at exercise intensities corresponding to the maximum oxygen uptake of 30%, 45%, and 60% for 30 minutes. SR increased abruptly just after the onset of exercise and the degree of increase became greater along with the increase in exercise intensity. Since this result of SR occurs immediately after the onset of exercise during the period without rise in the tympanic temperature, this may be caused by nonthermal factors. After that, SR maintained a level which was lower than the level at the onset of exercise until exercise was completed. The level got higher as the exercise intensity was increased from 30% to 45% and 60%. From this result we infer that sweating on the palm strongly depends on nonthermal factors. We observed that the degree of increase in the finger blood flow and the forearm skin blood flow associated with the rise in the body temperature was influenced by nonthermal factors.

PI.07

Frontal Midline Theta Differences between Successful and Unsuccessful Golf Putts.

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Chia-Jung Shih (Taipei Municipal University of Education, Taiwan)

Che-Wei Chang (National Taiwan Normal University, Taiwan)

Tsai-chun Hsieh (National Taiwan Normal University, Taiwan)

Chung-Ju Huang (Taipei Physical Education College, Taiwan)

Shih-Chun Kao (National Taiwan Normal University, Taiwan)

The aim of this study was to examine the hypothesis that pre-performance frontal midline theta power reactivity is associated with successful outcomes in skilled golf putting. Sixteen skilled golfers performed one hundred putts each while Electroencephalogram (EEG) was recorded from frontal electrode sites during the aiming period (3 x 1 s epochs) before stroke. The fifteen best putts and fifteen worst putts were selected for each participant on the basis of performance outcome, and pre-performance EEG theta power for best putts was compared with that of the worst putts. Results showed that the frontal EEG theta power was stable during epochs 1 - 3 before all putts but was significantly smaller for the best putts in comparison to that of



the worst putts. The frontal midline theta has been associated with a top-down attention process and, the findings from this study suggest that requirement of top-down attention was relatively lower during the pre-performance period for best putts. We conclude that the participants were able to stroke on the putting green with greatest success while only a portion of the attentional resource was allocated to the intended putting skill. The conservation of attentional resources during the pre-performance period may be characteristics of an optimal preparatory state for the elite athletes.

P1.08

The Difference between Visual and Kinesthetic Sport Imagery: An EEG Study.

Tzu-Hui Kuo (National Taiwan Sport University, Taiwan)
Tai-Wei Hsiang (National Taiwan Sport University, Taiwan)
Shih-Hsien Yen (National Taiwan Sport University, Taiwan)
Chun-Wei Chiu (National Taiwan Sport University, Taiwan)
Yu-Kai Chang (National Taiwan Sport University, Taiwan)

The use of mental imagery of motor behavior plays an important role in motor skill learning and elite sports. Previous studies showed that visual motor imagery (VMI) and kinesthetic motor imagery (KMI) may have different neural network including the parietal and visual cortexes. The cerebral activity investigation with motor imagery (MI) paradigms is based on the mean power in EEG frequency bands mainly in alpha band (8-13 Hz). Beta-range synchronization (18-30 Hz) is the most characteristic of the sensorimotor cortex during motor execution (ME). The purpose of present study was to compare the VMI and KMI with alpha and beta on the EEG activation condition. Six soccer national players (age=20.83 year, SD=4.2) were included. EEG recordings were placed on foot representation area (FCz, C1, Cz, C2, and CPz), visual areas (O1 and O2), sensorimotor (C3 and C4), and parietal (P3 and P4) according to the guidelines for the standard electrode position to record surface EEG. The results indicated that VMI in O1 and O2 have higher alpha band than that in the KMI. Beta band at C3, C4, P3, and P4 also reveal high in KMI compared to VMI. However in the foot representation area, beta band only found significant differences at Cpz and Cz. These results support the hypothesis that VMI and KMI in the parietal and visual cortex are different suggesting that the resources of these types of imagery might based upon different neural networks.

P1.09

EEG coherence analysis between best and worst golf putting performance.

Yi-Chieh Chen (Taipei Municipal University of Education, Taiwan)
Che-Wei Chang (National Taiwan Normal University, Taiwan),
Tsai-Chun Hsieh (National Taiwan Normal University, Taiwan)
Chung-Ju Huang (Taipei Physical Education College, Taiwan)
Tsung-Min Hung (National Taiwan Normal University, Taiwan)

The aim of this study was to compare EEG coherence between best and worst golf putting performance. EEG coherence is a way to simultaneously measure the degree of linear relatedness between two regions of the cerebral cortex, with higher coherence representing more communication/interference between both areas, while lower coherence implies regional autonomy. According to previous studies, experts have lower coherence while performing better, indicating that experts use specific cortexes for skilled performance. This study intended to further explore the relevance of EEG coherence through intraindividual comparison of best and worst performances. Specifically, this study compared the coherence between the pair of Fz-T3, Fz-T4, Fz-P3, and Fz-P4 at four frequency bands (i.e., theta, 4-8 Hz; lower alpha, 8-10 Hz; upper alpha, 10-13 Hz; and lower beta, 13-22 Hz). The participants were 18 experienced golfers ($M=38.5 \pm 16.9$) with an average of 11.5 ± 6.24 years of golfing experience. Several 4(Sites) \times 2 (worst & best) \times 3(time) ANOVAs with repeated measures were employed. The main effects of electrode were showed a similar trend at four frequency bands (i.e., $Fz-T3 < Fz-T4 < Fz-P3 < Fz-P4$). Furthermore, at the lower beta, the difference between best and worst performance was marginally significant ($F=3.186, P=.094$). These results indicate the relevance of examining EEG coherence for a better understanding of optimal mental states during skilled golf putting performance.



PI.10

Mental toughness and psychological skills in individual elite athletes.

Eduarda Maria Coelho (CIDESD, UTAD, Portugal)

José Vasconcelos-Raposo (CIDESD, UTAD, Portugal)

Aim:

To compare mental toughness and psychological skills in individual athletes of different performance levels

Methodology:

The sample consisted of 323 individual athletes (207 male and 116 female) from six sports, with a mean age of 20.48 (\pm 4.02) and 10.13 (\pm 4.96) years of practice. The sample was divided in four groups with different performance levels: National (n=221), European (n=49), World (n=38) and Olympic (n=15). Mental toughness and psychological skills (self-confidence, negative energy control, attention, imagery, motivation, positive energy, and attitude control) were assessed by Psychological Performance Inventory. We used Mann-Whitney and Kruskal Wallis tests, with Bonferroni correction, to compare groups.

Results:

Significant differences were found between groups in all variables, except in positive energy. The main differences were between National and Olympic athletes, having the Olympic greater self-confidence, attention control, attitude control and mental toughness. Olympic athletes still show a greater negative energy control compared to lower level. The World level athletes revealed higher levels of self-confidence, imagery, attitude control and mental toughness than the National. The European athletes showed bigger values of self-confidence, motivation and mental toughness compared to National level.

Conclusion:

As the level of performance increased, the athletes become more similar in psychological profile. There is a set of psychological attributes that selects individuals for sporting excellence and others that are developed during the path to excellence.

PI.11

The Effects of Mental Toughness, Exercise Attitude and BMI on the Cardiovascular Fitness of University Students.

Huei-Ying Chen (Chang Gung Institute of Technology, Taiwan)

Chen-Kuan Kao (National Ilan University, Taiwan)

Jung-Huei Lin (National Ilan University, Taiwan)

Chung-Ju Huang (Taipei Physical Education College, Taiwan)

Tsung-Min Hung (National Taiwan Normal University, Taiwan)

This study examined the relationships among mental toughness, exercise attitude, body mass index (BMI) and cardiovascular fitness for university students after a fifteen-week jogging program. 157 students (115 males and 42 females) enrolled in the study. A series of questionnaires were administered at seven and a half weeks into the program, including the Trait Mental Toughness Inventory for Sport (TMTIS; effort, coping ability, and pain tolerance) and the Behavior/Attitude toward Exercise Scale (BAES; cognition, affect, and behavior). In addition, two 5000-meter run tests were held to evaluate participants' cardiovascular fitness prior to and after the jogging program. Stepwise multiple regressions were employed to predict the pre- and post- performance from mental toughness, behavior/attitude toward exercise and BMI. Results showed that BMI ($R^2 = .11$, $\hat{\beta} = -.32$, $p < .01$) and intent toward exercise (BAES subscale) ($\Delta R^2 = .09$, $\hat{\beta} = .30$, $p < .01$) were effective predictors of pre-program cardiovascular fitness. In addition, BMI ($R^2 = .21$, $\hat{\beta} = -.32$, $p < .01$), behavior ($\Delta R^2 = .11$, $\hat{\beta} = .30$, $p < .01$), and effort ($\Delta R^2 = .03$, $\hat{\beta} = .17$, $p < .05$) significantly contributed to the explained variance of post-program cardiovascular fitness. This study indicates that reduced BMI, enhanced desire to perform, and mental effort can improve cardiovascular fitness for university students in Taiwan.



PI.13

Towards to Understanding the Mental Toughness in Taiwan Elite Athletes.

Meng-Lin Tsai (National Taiwan Sport University, Taiwan)

Yu-Kai Chang (National Taiwan Sport University, Taiwan)

Shih-Chung Cheng (National Taiwan Sport University, Taiwan)

Feng-Tzu Chen (National Taiwan Sport University, Taiwan)

Although the term “mental toughness” has been widely used by various athletic performers, to date, no study has examined the important psychological abilities of Taiwan’s elite athletes. Therefore, the purpose of this study is to explore the status of mental toughness regarding the different demographic backgrounds of Taiwan’s Elite Athletes. 289 elite athletes from 12 sports teams were recruited. These athletes were trained in the 2009 National Taiwan Training Central, the top sports training center in Taiwan. These athletes were requested to complete two questionnaires, including a demographic sheet and the Trait Mental Toughness Inventory of Sport (TMTIS), which includes 3 subscales: positive efforts, anti-pressure, and endurance. The independent t-test and one-way ANOVA were computed for the differences of the TMTIS based upon athletic variables. The results indicated that: a) Regarding gender, males had higher positive efforts ($M=4.09$, $SD=0.47$) and anti-pressure ($M=3.62$, $SD=0.58$) scores than the females, but no significant differences were found in their respective endurance scores; b) Regarding training years, 12 year olds and older have higher anti-pressure ($M=3.70$, $SD=0.55$) scores than the others age groups (1-3, 4-6, 7-9, 10-12 years), but none of these differences has been found in terms of positive effort and endurance; c) Regarding the type of sport, individual sports have higher anti-pressure scores ($M=3.61$, $SD=0.41$) than group sports but no differences have been found in terms of positive effort and endurance; d) Regarding international achievement, athletes who have participated at the Olympic, Asia, and Asia-East events ($M=0.348-0.412$, $SD=0.41-0.64$) have higher scores in positive efforts, anti-pressure, and endurance than athletes have never participated in these events, although no differences were found in these three levels of events. In conclusion, the status of mental toughness is influenced by demographic backgrounds of elite athletes. Generally, males, through their longer training years, individual sports, and more competitive levels of international participation have demonstrated higher mental toughness scores, particularly in anti-pressure. Future research on these issues is warranted for determining practical implications.

PI.14

Stress and Recovery States After a 24h Ultra-Marathon Race: A One-Month Follow-Up Study.

Michel Nicolas (Faculté des Sciences du sport de Bourgogne, France)

Objectives:

The purpose of this study was to investigate the athlete’s perception of stress and recovery states following a 24 h ultra-marathon race.

Design and Method:

Psychological states were assessed in 14 male subjects before as well as 1, 3, 6, 9, 12, 15, 21, and 30 days after the race.

Results:

The results suggest an ultra-endurance race induces perceived stress and leads to subsequent alterations in perceived recovery, whatever the psychological, physical, emotional or social dimensions according to a unique time-course for the several components evaluating the stress and recovery process. Stress and recovery levels related to the 24h race showed that a period of 2 weeks is required for both stress and recovery to return to baseline levels. Total Stress decreased significantly 6 days after the race while conversely, Total Recovery scales returned to pre race values 15 days after the race.

Conclusions:

This exploratory investigation added to our knowledge of the recovery and stress process in a very demanding sport discipline and provided information about the dynamic nature of recovery and stress and their respective specificity. Methodological and practical consequences for athletes and coaches are examined in the discussion. This study highlights the importance of regularly monitoring the psychological states of stress



and recovery of ultra-endurance athletes during the training process and the early stages after a race.

PI.15

Processes of human adaptation in stress situations: A study with high performance athletes.

Sara Manuel Pinto da Silva (University of Minho, Portugal)

Heitor Lopes (University of Minho, Portugal)

Rui Gomes (University of Minho, Portugal)

The analysis of how athletes respond to stress situations has been one of the fields of main interest in Sport Psychology. The Transactional Model of Lazarus has made one of the largest contributions suggesting that the adaptation to stress should be understood as a psychological process where cognitive, motivational and relational factors are involved (Lazarus, 1991; Lazarus & Folkman, 1984).

This study was done with eight athletes competing at top level competitions and they have achieved at least three titles of national champions. We applied an interview guide concerning the athletes' perceptions and coping with the highest stress situation in their whole sport career (Gomes, 2010). We followed a case analysis methodology, using a deductive logic in the data treatment.

The results showed that: i) the highest sources of stress were related to the importance of competitions and sport injuries; ii) the attributes of the highest source of stress were related to the uncertainty and duration of the situation; iii) in the primary appraisal, a balance in the perception of challenging and threatening situations was observed; iv) in the coping strategies, a predominance of the venting of emotions and active coping was observed; v) a balance between positive (e.g., happiness) and negative (e.g., shame) emotions resulted from the coping process; and vi) it was noticed a balance between problem and emotion coping strategies in managing these emotions. This study highlighted the importance of studying stress, coping and emotions as a single conceptual unity, as proposed by Lazarus and Folkman (1984).

PI.16

Relationship between Passion and Mental Toughness among Senior High School Athletes.

Shih-Hsien Yen (National Taiwan Sport University, Taiwan)

Feng-Tzu Chen (National Taiwan Sport University, Taiwan)

Lin Chi Ta Hwa (Institute of Technology, Taiwan)

Tzu-Hui Kuo (National Taiwan Sport University, Taiwan)

Yu-Kai Chang (National Taiwan Sport University, Taiwan)

Mental toughness has been recognized as a significant characteristic for successful athletes. The athlete who has a higher level of mental toughness demonstrates characteristics of persistence, resilience, and high motivation. Passion is a concept associated with high motivation as well, and people with high passion status will devote their time and energy to a favored task, which might be share a sign of mental toughness. Given the similarity of these concepts and yet there being no empirical examination, the primary purpose of this paper is to investigate the relationships between mental toughness and passion. 108 senior high school athletes in Taiwan were recruited and requested to complete the Traits Mental Toughness Inventory of Sport and the Passion Inventory for assessing mental toughness and passion, separately. The Pearson product moment correction was computed by figuring the status of mental toughness (positive effort, anti-pressure, and endurance) and passion (obsessive passion and harmonious passion). The results indicate that positive effort has a significant moderate positive correlation with both obsessive passion and harmonious passion ($r = 0.58-0.68$). However, there is only a significant low positive correlation among anti-pressure, endurance, obsessive passion, and harmonious passion. The results suggest that mental toughness and passion might share similar concepts, where passion is particularly related to positive effort. Practical implications of these findings and the future direction of research for mental toughness and passion are discussed.

PI.17

Psychological Support for Bowls England -The Quest for Medals (A Mental Toughness Support Programme for Delhi 2010).

Tom Fawcett (University of Salford, UK)

Mental toughness has been recognized as a significant characteristic for successful athletes. The athlete who



has a higher level of mental toughness demonstrates characteristics of persistence, resilience, and high motivation. Passion is a concept associated with high motivation as well, and people with high passion status will devote their time and energy to a favored task, which might be share a sign of mental toughness. Given the similarity of these concepts and yet there being no empirical examination, the primary purpose of this paper is to investigate the relationships between mental toughness and passion. 108 senior high school athletes in Taiwan were recruited and requested to complete the Traits Mental Toughness Inventory of Sport and the Passion Inventory for assessing mental toughness and passion, separately. The Pearson product moment correction was computed by figuring the status of mental toughness (positive effort, anti-pressure, and endurance) and passion (obsessive passion and harmonious passion). The results indicate that positive effort has a significant moderate positive correlation with both obsessive passion and harmonious passion ($r = 0.58-0.68$). However, there is only a significant low positive correlation among anti-pressure, endurance, obsessive passion, and harmonious passion. The results suggest that mental toughness and passion might share similar concepts, where passion is particularly related to positive effort. Practical implications of these findings and the future direction of research for mental toughness and passion are discussed.

PI.18

Mental Toughness or Mental Resilience? (The Need to Clarify Synonymous Terminology).

Tom Fawcett (University of Salford, UK)

Mental Toughness and Mental Resilience are synonymous terms which are frequently used by athletes, coaches and sports psychologists to explain high levels of mental performance in adverse sport/extreme environments. Yet, there have been scarce attempts by athletes, coaches, researchers, and sports psychologists to clarify the interchangeable and synonymous nature of such terminology over the past 10 years.

Such lack of clarification serves to support continuing conceptual confusion and this requires greater clarity to assist in future research design and potential developments of psychological constructs.

This paper will consider key literature in both Mental Toughness / Mental Resilience in an attempt to clarify the important similarities and potential conceptual differences in both psychological constructs. The paper will examine the inclusion of dispositional, mental skills and developmental approaches to what constitutes both constructs in terms of the how they have been explained and reported by key authors.

Mental Toughness definitions available from within a 'sporting context' appear to have a slightly different set of 'essential characteristics' to what constitutes Mental Resilience in a wider environmental Lifestyle context. The possibility that Mental Toughness may be more suited to situational application (within sport), and lack transferability due to its dependence on a mental skills model within a confined performance environment is worth consideration. Mental Resilience is considered to be more grounded in developmental psychology, concerned with one's self concept and more reliant on using learning experiences and suited to wider life situations.

PI.19

Development and Validation of the French Achievement Goal Questionnaire for Sport and Exercise.

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François Riou (Montpellier University, Laboratory Epsilon, France)

Julie Boiche (Montpellier University, Laboratory Epsilon, France)

Julie Doron (Montpellier University, Laboratory Epsilon, France)

Ahmed-Jérôme Romain (Montpellier University, Laboratory Epsilon, France)

Karine Corrion (University of Nice Sophia-Antipolis, France)

Grégory Ninot (Montpellier University, Laboratory Epsilon, France)

Fabienne D'Arrippe-Longueville (University of Nice Sophia-Antipolis, France)

This research aimed to develop and validate a French Achievement Goal Questionnaire for Sport and Exercise (FAGQSE). In a first study, factor analyses conducted on a 20-item preliminary version supported the existence of four factors corresponding to the four types of goals of Elliot and McGregor's (2001) framework (MAp: Mastery-Approach, PAp: Performance-Approach, MAV: Mastery Avoidance, PAV: Performance-Avoidance). A second study examined a more parsimonious 12-item version of the FAGQSE. This version was found to be valid among samples of athletes, exercisers, and PE students. The temporal stability of the questionnaire was evidenced by a satisfactory test-retest over a 1-month period and its theoretical validity was supported by correlations between achievement goals and entity/incremental theories of sport ability, perceived sport



competence, and sport anxiety. As a result, the FAGQSE is a valid and reliable instrument that can be used for theoretical and applied purposes in various sport and exercise settings.

PI.20

Toronto Alexithymia Scale: psychometric analysis with a sample of Brazilian athletes.

Daniela Wiethaeuper (Université du Québec à Trois-Rivières, Canada)

This study is a part of a bigger project that aims to explore the profile of Brazilian athletes, taking into account variables and characteristics of their personality typology. Specifically, this study aims to explore the psychometric properties of the Brazilian version of the Toronto Alexithymia Scale (TAS-20) with a sample of 202 athletes (of both sexes and ages varying from 18 to 43 years old) chosen by convenience. Data was collected in clubs and associations in the south of Brazil. The TAS-20 was originally constructed to evaluate three distinct but interconnected dimensions: 1) difficulty to identify feelings and body sensations; 2) difficulty to describe feelings to others; 3) thoughts oriented externally. These dimensions allow a global evaluation of the Alexithymia using the TAS-20 which is constituted of 20 self-report items about the emotional states of subjects related to thoughts and body sensations. A high score means a high level of Alexithymia. The Cronbach Alpha for the scale was ($\alpha=0,798$) comparable to other studies (0.68 to 0,84). The results for the model adequacy (GFI=0,881; AGFI=0,847; RMSEA=0,069) were equivalent to other countries. Main conclusion: the tridimensional model can be applied and used in research with athletes samples. New studies may explore the clinical use of this aspect present in some athletes.

PI.21

Revised Version of Sport Courage Scale for Children.

Erkut Konter (Dokuz Eylül University, İzmir, Turkey)
Johan YY, Ng (University of Birmingham, UK)

Sport in general and sport psychology in particular, have much to say about stress, anxiety and fear and they have little to say about courage in sport. Research questions, conceptual models and psychometrically sound scales related to courage in sport have just recently been started. Researchers have difficulty in doing research with children, as there are not many instruments related to lower age groups, especially in sport psychology. It also seems that there is no sound scale specifically measuring sport courage for children, although various scales exist in sport psychology related to mental toughness, motivation, self-confidence, fear, anxiety, stress, risk taking etc. However, Sport Courage Scale-31 (SCS-31) has recently been developed for the age groups 13- to 23-year-old athletes in various individual and team sports. The purpose of the study was to revise the aforementioned scale. Nineteen more items were added to the SCS-31 in an attempt to improve the psychometric property of scale scores, especially for the Altruistic Behavior subscale. Data were collected from 522 children aged 10 to 12 participating in various sports and physical education classes at schools. Data was analysed using confirmatory factor analysis. Analysis confirmed a 5-factor structure that supported factorial validity and reliability of scale scores (Fit indices: scaled-chi square = 511.55, $df = 340$, CFI = .94, TLI = .94, RMSEA = .03, SRMR = .04). These factors were labelled: Determination (8 items and $\alpha=.76$), Self Confidence/Mastery (6 items and $\alpha=.75$), Assertiveness (6 items and $\alpha=.71$), Venturesome/Coping with Fear (4 items and $\alpha=.75$), and Altruistic (Sacrificial) Behaviour (4 items and $\alpha=.68$). As a result of analysis, Altruistic Behavior subscale gave better reliability result than SCS-31 with three new items ($\alpha=.68$). However, more research is needed to improve the "Revised Version of the SCS for Children" further.

Keywords:

Courage, Sport, Children, Scale Development, Sport Courage Scale, Self-Confidence, Mastery, Determination, Assertiveness, Venturesome, Coping with Fear, Altruistic Behavior.

PI.22

Objective test for assessing the persistent behaviour. Comparison between a sample of athletes and nonathletes.

Guillermo Viguria Hellin (Universidad Autónoma de Madrid, Spain)
José Manuel Hernández (Universidad Autónoma de Madrid, Spain)

In athletic performance, as in everyday life, successes and failures occur that determine the behavior of athletes.



Persistence, defined as firmness in the course of action in spite of the difficulty or opposition can act as a mediator between motivation, learning and performance (Vollmeyer y Rheinberg, 2000). The purpose of this study was to determine a persistent behaviour pattern and detect possible differences in this respect among a sample of athletes and nonathletes.

25 elite basketball players whose average age was 23.67 years ($SD=3.05$) and 18 nonathletes students whose average age was 25.5 years ($SD=2.98$) participated in this study. All participants complete an adaptation of Pavlov System, developed for research on persistence (Santacreu y García-Leal, 2000). The T Student coefficient showed that the athletes was more effective in the learning task than the student sample ($F(1,43)=18.25$; $p<.001$); however, the nonathletes students was more persistent than the athletes ($F(1,43)=9.34$; $p=.004$).

The results could be due to the use of a neutral test to measure the persistent behavior. The persistence may be influenced by the meaning the athletes contribution to their discipline and the motivation to perform the task.

P1.23

Building Bridges - An innovative tool to capture small health behaviour changes; the development process.

Hayley Mills (Canterbury Christ Church University, UK)

Mark Uphill (Canterbury Christ Church University, UK)

A United Kingdom regional community service highlighted a need for a new assessment tool to allow patients and providers to observe more clearly health changes being made as a result of various lifestyle (exercise/diet) interventions. Based on this remit, a research programme evolved with the aim of designing an evaluative tool to capture small health related changes, (such as in attitude and knowledge) that can occur as a consequence of lifestyle interventions. This process was delimited by a number of stipulations made by the funding body. For example, particular consideration was to be given to accessibility. It was deemed essential for the tool to be worded appropriately for patients to complete independently, without the need for support including patients from varying educational backgrounds (who access the local interventions). The iterative process required integrating those considerations, and the stages of enhancement required to develop a functional tool are documented. Processes such as, using literature, field testing, gaining patients' feedback, seeking diverse expertise and those insights gained from using factor analysis techniques to refine the assessment tool are described. The ensuing advancement of the innovative visual analogue tool 'Bridges to Better Health' is illustrated. The tool provides a complement to physical measures (such as weight, blood pressure reduction) by capturing potential changes in intention, alongside small changes in behaviour and thus can provide affirmation of the efforts of those who provide and take part in lifestyle interventions.

P1.24

Evaluation of a psychological skill in Japanese athletes: I. Exploratory Factor analysis of the Test of Performance Strategies in a Japanese Sport Setting.

Hiroaki Wakayama (Yokkaichi University, Japan)

Eiji Watanabe (Ryukoku University, Japan)

Toshiro Endo (Daito Bunka University, Japan)

The evaluation of athletes' psychological skills has contributed to field of applied sport psychology. However, limited study exists in Japanese athletes, especially psychological skill in practice setting. The aim of present study was to examine the evaluation of a psychological skill in Japanese athletes with the Japanese version of the Test of Performance Strategies (TOPS). The Japanese version of TOPS in terms of factor structure differed from original English version. Altogether, 724 athletes aged 15–24 years (546 males aged 19.5 ± 1.9 years, 178 females athletes aged 18.6 ± 2.0 years; 154 high school athletes, 570 collegiate athletes;) participated in this study. Athletes who belonged to varsity team competed in broad range of sports, including volleyball, track and field, baseball, soccer, and tennis. The skill level of participants was ranging from regional athletes to international athletes. Analysis of Variance (ANOVA) was used to compare the differences between genders, ages, and skill levels in each factor. Statistical differences in several factors in both competition and practice were found for gender and the age by using the ANOVA. Result indicated no statically significant differences among skill level. On the basis of those results, we discuss the characteristics of psychological skill in Japanese athletes and future directions.



PI.25

The Perceived Autonomy Support: Exercise Climate Questionnaire. (PASECQ): construct and internal validity in Portuguese exercisers.

João Miguel Moutão (Sport Sciences School of Rio Maior, Portugal)

José Leitão (UTAD, Portugal)

José Alves (CESPU-Norte, Portugal)

Self-Determination Theory (SDT: Deci & Ryan, 1985), is a theoretical perspective on human motivation, that appears to hold promise for elucidating the motivational processes underpinning exercise involvement. However, the lack of an exercise-specific instrument that measures the autonomy support given by the fitness instructors among Portuguese exercisers limits the examination of the theoretical tenets of SDT in this population.

The Perceived Autonomy Support: Exercise Climate Questionnaire (PASECQ) is a 6-item multidimensional instrument adapted to the exercise context by Edmunds et al. (2006) from the original version of the Perceived Autonomy Support: Health Care Climate Questionnaire (PASHCCQ) developed by Williams et al. (1996). This scale was developed with the purpose to measure autonomy support given by the fitness instructors in line with SDT.

A sample of 522 Portuguese fitness exercisers were collected (313 females and 209) males, aged from 16 to 70 years ($M=32.82$; $SD=12.08$) was collected.

The findings provided evidence of strong internal consistency of the translated PASECQp ($\alpha=.88$), while confirmatory factor analysis supported a good fit of the one-dimension model to the data ($S-B \chi^2=20.46$; $p=.015$; $\chi^2/df = 2.28$; robust NNFI=.986; robust CFI=.992; robust RMSEA=.049 com 90% CI=.021–.078). The present findings provide initial support to the use of the PASECQp to assess the autonomy support given by the fitness instructors among Portuguese fitness exercisers.

PI.26

The Basic Psychological Needs in Exercise Scale: Construct and internal validity in Portuguese exercisers.

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Luís Cid (Sport Sciences School of Rio Maior and Research Center for Sports Sciences, Health and Human Development, Portugal)

José Leitão (University of Trás-os-Montes and Alto Douro and Research Center for Sports Sciences, Health and Human Development, Portugal)

José Alves (Cooperative Higher Education, Polytechnic and University – North and Research Center for Sports Sciences, Health and Human Development, Portugal)

Symeon Vlachopoulos (Aristotle University of Thessaloniki, Department of Physical Education and Sport Science at Serres, Laboratory of Social Research on Physical Activity, Greece)

Self-Determination Theory (SDT: Deci & Ryan, 1985), is a theoretical perspective on human motivation, that appears to hold promise for elucidating the motivational processes underpinning exercise involvement. However, the lack of an exercise-specific instrument that measures the three psychological needs outlined by SDT among Portuguese exercisers limits the examination of the theoretical tenets of SDT in this population. The Basic Psychological Needs in Exercise Scale (BPNES) is a 12-item multidimensional instrument developed by Vlachopoulos and Michailidou (2006) to measure perceived psychological need satisfaction in exercise in line with SDT.

In the preliminary validation study of the BPNES – Portuguese version (BPNESp), the confirmatory factor analysis (CFA) supported the original 3-factor structure only after deletion of item 9, which cross-loaded on the competence factor. Continuing with the validation process, item 9 was revised and data from a new sample of 522 Portuguese fitness exercisers were collected (313 females and 209 males) aged from 16 to 70 years ($M=32.82$; $SD=12.08$).

The findings provided evidence of strong internal consistency of the translated BPNESp subscales of Autonomy ($\alpha=.75$), Competence ($\alpha=.75$) and Relatedness ($\alpha=.83$), while confirmatory factor analysis supported a good fit of the correlated 3-factor model to the data ($S-B \chi^2 = 144.14$; $p = .001$; $\chi^2/df = 2.82$; robust NNFI = .938; robust CFI = .952; robust RMSEA = .059; 90% CI = .048 –.071). The present findings provide further support to the use of the BPNESp to assess the extent of basic psychological need fulfilment among Portuguese exercise participants.



PI.27

Predicting Exercise Stage Transition: An Application of the Theory of Planned Behavior by Adding Action Plan as a Mediator between Intention and Behavior.

Likang Chi (National Taiwan Normal University, Taiwan)

The purpose of this study was three-fold: first, to examine the differences of the construct of TPB and action plan among different exercise behavior stages of change; second, to test the modified model of TPB by adding action plan as a mediator; third, to compare the model invariance across different stages of change. This study recruited 605 college students from Taipei Area (401 males and 204 females). Their average age was 20.85 years. A series of ANOVAs were conducted to examine the differences of the construct of TPB and action plan among different exercise behavior stage of change. The results indicated that all the variables except for subjective norm revealed significant differences among different exercise behavior stages. Specifically, participants who were at action stage reported significantly higher scores than autonomy stage. Participants who were at autonomy stage reported significantly higher scores than motivation stage. In addition, structure equation modeling was used to test the modified model of TPB by adding action plan as a mediator. The results indicated that the overall fit index of the modified model was much satisfactory compared to the original model of TPB. A multi-group invariance test was also conducted to compare the model invariance across different stage of change. The results indicated that the invariance of the model did not show across three different stages. Specifically, attitude toward exercise significantly predicted exercise intention at action stage and autonomy stage but not at motivation stage. Moreover, action plan significantly predicted exercise behavior only at autonomy stage.

PI.28

Validation of the Revised Sport Motivation Scale and Sport-Related Integration.

Luc G. Pelletier (School of Psychology, University of Ottawa, Canada)

Meredith Rocchi (School of Psychology, University of Ottawa, Canada)

Philippe Sarrazin (University Joseph Fourier, France)

The original Sport Motivation Scale (SMS) has demonstrated validity and reliability in multiple studies since its publication in 1995. The scale was recently the object of some controversy and has undergone some revisions as a result (Pelletier, Rocchi, Vallerand, Ryan, Deci, & Sarrazin, 2010). A few items were modified and the integration subscale, not included in the original version, was added. The objective of the present study was to examine first the construct validity and reliability of the revised version of the SMS, and second, the concept of integrated regulation toward a specific domain, practicing sport. Results of a factor analysis and, tests for internal consistency and correlations among the different types of motivation as well as correlations with several outcomes of motivation, support the validity of the revised SMS when it is compared with the original SMS. The addition of the integrated regulation subscale appears to be supported by the analysis as (a) it could be distinguished from other forms of motivation like intrinsic motivation and the identified regulation of extrinsic motivation, and (b) the presence of harmony and the absence of conflicts in life goal strivings were associated with higher forms of self-determined motivation whereas the lower forms of self-determined motivation were not.

Keywords:

Sport motivation scale, measurement, scale validation, integrated regulation of extrinsic motivation, self-determination theory

PI.29

IMPRAFE-I32: A new instrument for the evaluation of motives for the practice of physical activities and sports.

Marcos Balbinotti (Université du Québec à Trois-Rivières, Canada)

The regular practice of sports activity, results in better quality of life of those who practice it. However, the quality of life is not the only reason for the practice of sports. There are other motives that are important to study and integrate to the athletes' training so they can contribute to the present and future action and motivational perspectives of the athlete. The IMPRAFE-I32 is an instrument that evaluates the motivational



meaning of athletes to the practice of sports through the measure of six dimensional dimensions: stress control, health, sociability, competitiveness, aesthetics and pleasure. The construction of this measure was based in the following theories: self-determination; human motivation; motivational meaning of future perspective; motivation and representation of the self. The objective of this study is to test the factorial validity and the precision index of the measure. A sample of 1439 Brazilian athletes (both sex ages ranging from 13 to 83 years old) was used. The main results indicate a) satisfactory results of the factorial validity on the multiple criteria used to test the model adequacy;; b) the Cronbach Alpha obtained in the six dimensions were satisfactory, indicating excellent index of measure precision. The main result is that the IMPRAFE-132 is a valid instrument and can be used by sports psychologists and physical educators; particularly those interested in evaluate the motivational levels of athletes or those who practice physical activities in general. New studies should be conducted such as longitudinal and transcultural.

PI.30

Development of an IAT of Risk Measure: Exploring its Reliability and Predictive Validity.

Ricardo de la Vega (University Autonoma Madrid, Spain)

Javier Horcajo (University Autonoma Madrid, Spain)

Constanza Pujals (University Autonoma Madrid, Spain)

Marta Roman (University Autonoma Madrid, Spain)

Victor J. Rubio (University Autonoma Madrid, Spain)

As a part of a research that explores the relationship between risk behavior and sport injury, in the present work authors develop and propose a new instrument to measure risk tendency: The Implicit Association Test of Risk (IAT-R). Concretely, the Implicit Association Test (IAT, Greenwald, McGhee, & Schwartz, 1998) was adapted to measure risk tendency by assessing associations of the self with risk versus security categories. As previous researches have shown, traditional self-report measures of risk tendency have an acceptable level of reliability and validity. However, as explicit self-report measures, they present some limitations that should be taken into account (Greenwald & Banaji, 1995). Concretely, self-reported answers refer to representations that are accessible through introspection, but empirical evidence supports the view of that introspective access is limited (e.g., Nisbett & Wilson, 1977; Vazire & Carlson, 2010). Moreover, people might have access to their feelings, thoughts or past behaviors, but they can be motivated to occult or management that information. That is, questionnaire answers are susceptible to self-presentation biases. In order to try to improve risk propensity assessment, the present research proposes the IAT-R as a complementary instrument. In a first study, the IAT-R showed good internal consistency and adequate temporal reliability. In a second study, it presented significant correlations with explicit risk tendency measures. Finally, IAT-R measures predicted behavior in a decision making setting, whereas self-report measures didn't it. Implications for research on sport injury are discussed.

PI.32

Emotion and Performance.

Anna Alexson (Karlstad University, Sweden)

This article focus on a primitive concept in emotional processes called that can exist without objects looking at affective states as a part of an emotional experience which be measured through object-less dimensions of pleasure-displeasure(pleasure or valence)and activation-deactivation(arousal or energy).The combination of these two dimensions-here called core affect's is the primitive proposed framework. Core affect is a neuropsychological state consciously accessible as the simplest raw(non reflective)feelings evident in moods and emotions. Previous research has shown "evidence" that positive emotions facilitates over favorable outcomes in sport and exercise. However, these previous studies has shown shortage regarded to the low validity of the used measurement used. The aim of the present study is to investigate whether the experience and effects of 45 minutes relaxation in flotation-REST (restricted environmental stimulation technique) had any short-term effects on athlete's emotional states and their physiological achievement using the measurements; Flotation-REST(Restricted Environmental Stimulation Technique), WANT (Wingate Anaerobic cycle Test) and Sergeant Jump, RPE(Rating of Perceived Exertion). There is forty six participants in the study (26 women and 20 men, average age 26 years) 20 athletic athlete's (international/ national level) and 26 students. Further this study may present athletic performance enhancement that, adapted and developed specifically for use with an athletic population, may elaborate on and increase the effectiveness of traditional

performance enhancement approaches. Result showed that Flotation-Rest has positive effects on performance and it could be used as a relaxation method for enhancing physiological performance.



Key words:

Flotation-REST, performance, athletics, PST, SCAS.

PI.33

Structured teaching of the swim on the distracting behaviors and swimming skills improvement with Autism.

Chang Wenshin (National Taiwan Normal University, Taiwan)

The purpose of this study was to examine the effects of implementation of structured teaching of the swimming on the distracting behaviors and swimming skills improvement with Autism. The participants are two autistic children; one was lectured by structure teaching of swim (experimental group), whereas another was lectured by general teaching (control group). They participated a 90 minutes class once a week for six weeks. This study assessed five distracting behaviors in swimming class by the distracting behaviors recording scale. The assessed behaviors look at the things irrelevant to the class, moving about (making noise), play things of what they have with them, leave the swimming pool without any reason, and play with the learning materials. Lastly, we compared the situation of distraction during the class for the past six weeks to explore the improvement effects of distraction behavior of the target child. Furthermore, we use pretest and posttest to compare the level of the improvement of swimming skills. The analyses showed that the experimental group acquired greater improvement effect on the distraction behavior. Due to the inconsistent of baseline level of skill between the two autistic children, it is not objective enough to conclude which group acquired better improvement. However, as the result showed that the experimental group had better improvement, the effects might be rather more significant. According to the findings above, structured teaching of swim may be a better teaching method for the children with Autism.

PI.34

Emotions in sport: Examining the relationship among predisposition and state emotional characteristics.

E. Karakasidou (University of Athens, Greece)

I. A. Zarotis. (University of Athens, Greece)

N. A. Stavrou (University of Athens, Greece)

M. Psychountaki (University of Athens, Greece)

The purpose of the study was to examine the relationship among athletes' predisposition and state emotional characteristics prior to competition. One hundred and one (101) Greek athletes (49 males, 51 females) from various individual sports, ranging in age from 10 to 37 years old and competitive experience from 2 to 25 years were volunteered to participate in the study. The athletes completed in training conditions (based on how they usually felt) the following questionnaires: (a) Sport Competition Anxiety Test (Martens, 1977; Aervas & Éakkos, 1990), (b) Trait Sport-Confidence Inventory (Vealey, 1986), and (c) Positive and Negative Affect Scale-trait version (Watson, Clark, & Tellegen, 1988). Thirty (30') to forty five (45') minutes before the competition the athletes completed the Competitive State Anxiety Inventory-2 (Martens, Burton, Vealey, Bump, & Smith, 1990; Stavrou, Aervas, Éakkos, & Psychountaki, 1998) and the Positive and Negative Affect Scale-state version (Watson et al., 1988) based on how they felt during that time. Furthermore, participants completed the short form of the Social Desirability Scale (Crowne & Marlowe, 1960; Psychountaki, Ekkekakis, & Zervas, 1993). The results indicated that athlete's emotional state may affect his/her outcome in a competition by influencing performance both during training and while competing (Butler, 1996; Jones, 2003). The canonical correlation analysis results showed that a combination of different predisposition's characteristics affect in different ways athletes' emotional state. The findings confirm previous studies developed in sport field, regarding emotions in sport.



PI.35

A conceptual frame of emotions and sports performance to understand, to evaluate and to guide professional intervention.

Enrique Cantón Chirivella (Universidad de Valencia, Spain)

Irene Checa Esquiva (University of Valencia, Spain)

From a critical analysis of the works and evaluation instruments developed for Hanin (1986; 1992) and the investigations of the group that applies Apter's Reversal Theory in the sport (Kerr et al., 1985), the aim of this work is to present an alternative model who answers some of the limitations of the previous models and to show his potential as conceptual alternative model, as base for the development of an instrument of evaluation of emotions in the sports performance and, finally, as a protocol of professional intervention of emotional self-control in sportsmen.

In three levels: the theoretical, the evaluation and the applied field, we indicate the need to distinguish between the directional cognitive elements and the physiological components of the emotional intensity, regulated principally by the level of arousal. This distinction is key for a suitable evaluation and, consistently, to guide the differential work of the cognitive component on the one hand and of the physiological one for other one, on line from what we come raised in the last years from the group of investigation (Canton & Checa, 2010)

PI.36

Influence of emotions on physical activity within the Theory of Planned Behavior.

Francis Ries (University of Seville, Spain)

José Manuel Sevillano (University of Seville, Spain)

The Theory of Planned Behavior (TPB) is a one of the most prominent theories for predicting behavior in different areas (physical activity (PA), drug abuse, social involvement, etc.). Several variables have been included in the TPB in order to increase its explanatory power. The aim of this paper is to extend the predictive ability of the TPB by including the mediating influence of emotions between intention and behavior (adolescents' PA). The constructs of the TPB were assessed by a 17 items-instrument and emotions were measured by four items. The questionnaire was completed by 175 adolescents from four secondary schools in the province of Seville (Spain). Analysis showed a high internal consistency of component scales (.81 α α .94) and high item-factor correlation (factor loadings > .72). Using structural equation modeling we found good fit indexes for original TPB and extended TPB models (CFI = .98 and RMSEA = .05 in both cases, standard ± 2 = 1.49 and 1.54, respectively), providing an increase of 14% of the explained variance for the extended model compared to the original TPB. The inclusion of emotions not only provides a significant theoretical contribution to the original TPB, but also provides greater predictive capacity for future practice of PA in adolescents.

PI.37

Judo Contestants' Temper in Sports Events.

Jan Supinski (The Academy of Physical Activity, Poland)

The Summary:

Temper is one of the most stable features of human personality. This view is shared by a significant majority of research workers who deal with this very issue. When enumerating human personality traits, psychologists seem to first of all place the temper as a feature which is genetically formed in a considerable degree. Having accepted this point of view, the knowledge about a sportsman temper seems to have a great meaning when selecting contestants at junior age as well as those at senior age- also when they successfully perform in their sports events.

The aim of this research is to define and describe the contestants' temper types (male and female ones) training judo in the context of sport results. In other words, it is to examine if contestants who win medals at Polish Championships, also in European and World Championship, differ (to others) due to their temper types.

The Method:

Strelau's test, also known as TS 134, has been used to examine the temper- basically due to the number of



questions included in it. The examined were able to answer „yes” or „no” or they couldn't write a question mark. Owing to the report, there were 8 types of temper distinguished: sanguine (S), spitfire (Ch1), spitfire 2 (Ch2), phlegmatic (F), melancholic (M), mixed melancholic (Mm), mixed spitfire (Ch1m), spitfire 2 mixed (Ch2m). In general, there were 300 people examined, men and women, aged from junior to senior age.

The outcomes:

The results seem to prove the thesis that temper in sports has a significant meaning on every single weaker types.

Level of sport education:

Regarding junior level, it indicates how to cooperate with a contestant with a defined temper as well as how to predict the young person's sport career. However, senior levels could be used as tips for trainers how to guide a contestant with a definite type of temper. From a social point of view, the research shows that it is worth to invest in the contestants with a defined temper type, as they are a strong personality examples with stable personality traits, but not in the

PI.38

The Experience And Expression of Emotions in Sports Coaches.

Mark Uphill (Canterbury Christ Church University, UK)

Marlize de Vivo (Staffordshire University, UK)

Samuel J. D. Cumming (University of Kent, UK)

Coaching is inherently an interpersonal process (cf. Lyle, 2002) and emotions, in part, serve an interpersonal communicative function. The emotions that coaches experience and how they express them can influence those players around them yet little is known about this facet of the coaching process. Acknowledging the value of qualitative approaches in an exploratory stage of research (e.g., Hanton et al., 2002), this study comprised a series of semi-structured interviews with a purposive sample of male ($n = 4$) and female ($n = 2$) coaches aged between 27 and 71 years ($M = 47$; $SD = 17$). Participants had coached between 7 and 39 ($M = 19$; $SD = 14$) years, and were involved in coaching junior club athletes to international/professional athletes. The interview guide comprised questions about (a) the characteristics of coaches emotions, (b) perceived consequences of emotions, and (c) strategies used to regulate emotions in themselves and others. Interviews were digitally recorded, transcribed verbatim and were concurrently deductively and inductively analysed, by the second author. Coaches reported a range of positively valenced (e.g., excitement, happiness, compassion, hope) and negatively valenced (e.g., disappointment, anger, anxiety, guilt) emotions. Emotions influenced their decision making and behaviour, and they strategically managed the display of their emotions to influence those around them, but were uncertain how effective these attempts were. In addition, all of the coaches interviewed reported that they were conscious of when athletes might be experiencing emotions and that they have attempted to assist them in the management of those feelings

PI.39

Influence of others on emotional process in sport.

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A. M. Lane, (University of Wolverhampton, UK)

Elisabeth Rosnet (INSEP, France)

Claude Ferrand (Université de Tours, France).

Coaching is inherently an interpersonal process (cf. Lyle, 2002) and emotions, in part, serve an interpersonal communicative function. The emotions that coaches experience and how they express them can influence those players around them yet little is known about this facet of the coaching process. Acknowledging the value of qualitative approaches in an exploratory stage of research (e.g., Hanton et al., 2002), this study comprised a series of semi-structured interviews with a purposive sample of male ($n = 4$) and female ($n = 2$) coaches aged between 27 and 71 years ($M = 47$; $SD = 17$). Participants had coached between 7 and 39 ($M = 19$; $SD = 14$) years, and were involved in coaching junior club athletes to international/professional athletes. The interview guide comprised questions about (a) the characteristics of coaches emotions, (b) perceived consequences of emotions, and (c) strategies used to regulate emotions in themselves and others. Interviews were digitally recorded, transcribed verbatim and were concurrently deductively and inductively analysed, by



the second author. Coaches reported a range of positively valenced (e.g., excitement, happiness, compassion, hope) and negatively valenced (e.g., disappointment, anger, anxiety, guilt) emotions. Emotions influenced their decision making and behaviour, and they strategically managed the display of their emotions to influence those around them, but were uncertain how effective these attempts were. In addition, all of the coaches interviewed reported that they were conscious of when athletes might be experiencing emotions and that they have attempted to assist them in the management of those feelings

PI.40

Coping strategies among Brazilian professional and amateur football players.

Carlos Eduardo Lopes Verardi (Universidade Estadual Paulista (UNESP), Campus Bauru, Faculdade de Ciências, Departamento de Educação Física/FAMERP - Brazil)

Maria Cristina de Oliveira Santos Miyazaki (Faculdade de Medicina de São José do Rio Preto/SP, Brazil)

Kazuo Kawano Nagamine (Faculdade de Medicina de São José do Rio Preto/SP, Brazil)

Ana Paula da Silva Lobo (Faculdade de Medicina de São José do Rio Preto/SP, Brazil)

Adriana Barbosa Santos (Departamento de Ciências de Computação e Estatística - IBILCE, Brazil)

Stress and coping have an important impact on professional practice. The aim of this study was to identify scores of interest related to coping strategies used by professional and amateur Brazilian football players. Participants were 134 male football players, 71 professionals (age=22,77±3,98 years) and 63 amateurs (age=17,18±0,84) from three teams participating on the First Division State Championship. During Series A-1 and A-2 of the Paulista Championship (professionals) and São Paulo Cup of Junior Football (amateurs) players who agreed to participate signed a consent form. The players answered individually to the Ways of Coping Scale (WOCS). For data analysis descriptive statistics, test for comparison of two proportions, t test for comparing means of independent samples, mean test and Mann-Whitney non parametric test were used. Significance level was $P < 0.05$. There were no significant differences related to coping strategies used by players (problem focused, emotion focused, wishful thinking/religious practices, and social support). Coping Focused Problem was the most frequently strategy used by all players (amateurs: mean=3.77 and professionals: mean=3.78). On the other hand, social support was the least used coping strategy (professionals: mean=1.94 and amateurs: mean=2.13). Coping Focused Problem was the most frequently strategy used by all players. On the other hand, social support was the least used coping strategy.

PI.41

Improving performance in football - long distance shoots.

Helder Lopes (University of Madeira, Portugal)

António Vicente (University of Beira Interior, Portugal)

João Prudente (University of Madeira, Portugal)

Catarina Fernando (University of Madeira, Portugal)

In soccer, it is important to know what can be done, even if it doesn't happen frequently or even if it still has never happened.

Shooting the goal from long distances, say 30 or 40 meters, not only allows to score goals, but some advantages which result from the extra work the defenders have while covering the ways to goal.

Through the analysis of 15 international games of UEFA's championships, chosen randomly, we verified that it happens an average of nine long distance shoots (132 what is an average of 8,8 per game). However more than 50% (69 shoots) failed clearly the goal; 9 had scored; of the others 54, 42 had been significantly in the keeper direction and were easily defended.

So from the 132 carried through, nine scored and 12 were relatively difficult to defend. That means an efficiency of only 16%, which is not good, considering that in most of those long distance shoots there was little direct opposition from the defenders.

Consequently we realized the study of this situation (long distance shoots), considering the speed of the ball, the time that leads to cover distances as the above cited ones, the acceptable times of reaction for keepers of these levels and the time that they take to cover distances that allow them to reach zones close to the limits of the goal.

And in the defined conditions we conclude that bigger precision is possible and that very superior levels of success can be reached.



P1.42

The paths to football expertise: A systematic research review.

Mathias Haugaasen (Norwegian School of Sport Sciences, Norway)

Following the increasing number of football players in the world and tougher demands for reaching professional status (FA, 2010; FIFA, 2007), the need for more football-specific research on expertise development has increased. The Developmental Model of Sport Participation (DMSP- Côté, 1999; Côté et al., 2007) is a central framework to explain the development of sport expertise. The aim of this study was to review available research on the development of expertise specific to football, using the framework of the DMSP. The review was limited to academic journal articles in the SportDiscus database. Keywords search consisted of terms connected to the DMSP, giving a total of 118 articles. After selecting only those specific for football, a total of 34 articles were systematically analyzed. In total, 15 studies specifically support the prediction of the DMSP that the quantity of football-specific practice increases and the non-specific practice decreases throughout developmental phases. The transfer of skills from non-specific activity to football seems to be easier for cognitive and perceptual than motor skills, and the transferability seems to depend on how similar the activity is to football. The results provide support for both i) the pathway of non-specific activity and later specialization, and ii) early specialization. Football-specific nuances may need to be applied to the DMSP, such as activity similarity to football and differences between motor and cognitive skills. More longitudinal research is needed to address the long-term effects of different forms of practice.

P1.43

Psychological characteristics of elite and sub-elite youth football players: A longitudinal study.

Sílvio de Castro Ramadas (Faculdade de Motricidade Humana, Portugal)

In order to examine the relationship between several psychological characteristics and level of performance, twenty two elite youth Portuguese football players (international level) aged between sixteen and nineteen ($M=17,45$ and $SD=1,05$) and thirty eight sub-elite counterparts (national level) aged between fourteen and nineteen ($M=16,26$ and $SD=1,40$) were evaluated over a period of two years. Participants completed several questionnaires considering the following constructs: commitment, motivation, resilience, coping, parental support and perfectionism. Repeated-measures analysis of variance showed that elite players revealed a consistent more adjusted psychological profile over time with special emphasis on commitment, resilience and coping dimensions. In what within-subject comparison concerns, statistic analysis indicates that once again the elite group demonstrates favorable evolution considering the influence of time on performance level, particularly on resilience construct. Present results provide valuable information about relevant environmental and intrapersonal factors related to talent development process.

P1.44

The coach's fulfillments of attachment figure properties and its effect on relationship quality and performance at the elite level.

Anne Fylling Frøyen (Norwegian School of Sport Science, Norway)

Because research within the attachment theory framework in the sport context is recognized by scarcity (Davis & Jowett, 2010) the focus of this study was to obtain a better understanding of a coach's fulfillments of the three specific functions of an attachment figure within a coach-athlete relationship at the highly elite level. Through in-depth interviews with an elite athlete and his coach it was revealed that the coach had become an important attachment figure for his athlete by fulfilling the functions of proximity maintenance, safe haven and secure base throughout the athlete's career (Miculincer & Shaver, 2007). During the start-up period of their relationship the coach manifests his confidence in the athlete and his ability to establish himself in the highest level of competitive sport and thereby functioning as a secure base for the athlete in this transitional period. During a time of injury and a severe drop in motivation for the athlete, the coach provides essential support and security in times, recognized as the function of safe haven within the attachment theory (Davis & Jowett, 2010). The attachment bonds between them grew even stronger when the athlete establishes himself at the world class level and express a need for closer proximity and collaboration with his coach. As of today, this athlete has maintained a world class level over several years and he emphasizes the relationship quality



within their relationship as one of the main reasons for his constant development and performance continuance at this level.

PI.45

Short and long-term effects of need-supportive physical activity coaching by students in kinesiology.

Ann-Sophie Van Hoecke (K.U.Leuven, Belgium)

Christophe Delecluse (K.U.Leuven, Belgium)

Joke Opdenacker (K.U.Leuven, Belgium)

Luc Lipkens (K.U.Leuven, Belgium)

Sofie Martien (K.U.Leuven, Belgium)

Filip Boen (K.U.Leuven, Belgium)

Objectives:

To examine the short- and long-term effects of a limited, individualized, and need-supportive physical activity coaching, based on the self-determination theory, provided by specialized master students in kinesiology.

Method:

Sedentary employees ($n = 92$) of the university of Leuven received a four-month need-supportive physical activity coaching, consisting of five contact moments (i.e. an intake session, three follow-up contacts and an outtake session) by master students in kinesiology ($n = 30$). They completed self-report measures of physical activity and various psychosocial variables, i.e. well-being, motivational behaviour, self-efficacy, social norms and social support, before the intervention, after the intervention (post-test) and one year after pre-test measurements (follow-up-test). A control group ($n = 34$) only completed the measurements. After the intervention period, a process evaluation was sent to the participants of the intervention group. At follow-up, also job satisfaction was questioned within all the participants.

Results:

Contrary to the control group, participants in the intervention group reported significant increases in self-reported physical activity, physical well-being, autonomous motivation, self-efficacy, social norms and social support at post-test (i.e. after the intervention period). Moreover, participants in the intervention group were on average very satisfied with the coaching and reported high support by the coach with respect to autonomy, structure and involvement. Analysis of the long-term effects (i.e. follow-up-test) is still ongoing.

Conclusions:

A limited individualized need-supportive physical activity coaching by students in kinesiology proved to be effective in the short-term in increasing physical activity and improving related psychosocial variables among sedentary university employees. Conclusions concerning long-term effects of a limited need-supportive physical activity coaching by students in kinesiology could not be drawn yet.

PI.46

Utilizing the Theories of Planned Behavior and Self-efficacy, to Explain Physical Education Teachers Behaviors and their Intentions to Implement a New Curriculum.

Georgios Gorozidis (University of Thessaly, Greece)

Yiannis Tzioumakis (University of Thessaly, Greece)

Athanasios Papaioannou (University of Thessaly, Greece)

In the last educational reform in Greece (2006-2007) the Ministry of Education brought in a new Physical Education curriculum. Teachers received new manuals containing a sufficient number of daily teaching plans for the entire academic year and they were asked to adopt student-centered teaching methods to implement these lesson plans. The purpose of the present study was to examine Physical educators' behaviors concerning the implementation of this new curriculum and their intentions to adopt it over the following year. Participants ($N=146$) responded voluntarily to anonymous questionnaires with good psychometric properties. Instruments used in the study were: a) TPB questionnaire assessing attitudes ($\hat{\alpha} = .88$), perceived behavioral control ($\hat{\alpha} = .87$) and intentions ($\hat{\alpha} = .88$), b) Self-efficacy in implementing the daily teaching plans scale ($\hat{\alpha} = .91$), and c) Past behavior scale regarding the implementation of the lesson plans ($\hat{\alpha} = .97$). Correlation analysis showed that all



TPB variables, self-efficacy and past behavior had meaningful relationships with each other. Hierarchical regression analysis revealed that self-efficacy in teaching plans, past behavior, attitudes and perceived behavioral control contributed significantly to the prediction of teachers' intentions to implement the new curriculum in the next academic year. Moreover, teachers' behavior was explained by their attitudes, perceived behavioral control and self-efficacy to implement the daily plans. It seems that teachers holding positive attitudes towards the new curriculum, with increased level of perceived behavioral control and self-efficacy, implemented the largest number of the daily lesson plans and were more inclined to exhibit similar behaviors in the future. These results suggest that in order to promote the adoption and the implementation of a newly introduced curriculum in PE policy makers need to enhance teachers' attitudes and perceived behavioral control, as well as to strengthen their self-efficacy beliefs.

PI.47

Teaching styles, task-involving motivational climate and metacognitive activity: An intervention plan in PE classes.

Nikolaos Digelidis (University of Thessaly, Greece)
Athanasia Chatzipanteli (University of Thessaly, Greece)
Athanasios G. Papaioannou (University of Thessaly, Greece)
Argiris Theodosiou (University of Thessaly, Greece)

Introduction:

Field studies have supported that task-orientation and task-involving motivational climate have a significant impact on students' self-reported metacognitive activity in PE classes. The aim of this study was to investigate further the hypothesis that increased metacognitive activity is related with a highly task-involving motivational climate which implies the implementation of more student-centered teaching styles.

Methodology:

601 students, thirteen years old, participated in this study. The students were divided into two groups: i) the experimental group consisted of 316 students (174 boys, 142 girls) and ii) the control group consisted of 285 students (144 boys, 141 girls). The intervention plan consisted of 38 sessions, 45 minutes each and lasted approximately 12 weeks. Teachers in the experimental group were trained to use more student-centered teaching styles (inclusion, reciprocal, self-check, guided discovery, convergent, divergent) while no intervention was done in the control group. The intervention was evaluated through questionnaires before and after the intervention.

Results:

Repeated-measures analysis revealed that the experimental group, compared with the control group, had higher scores in task orientation, task-involving climate, declarative knowledge, procedural knowledge, awareness of strategy use, information management, planning, self-monitoring, planning strategies, evaluation, mental imagery and lower scores in ego strengthening, social approval, ego protection, ego-protecting climate, social approval climate and ego-strengthening climate.

Conclusions:

The results clearly support the notion that a task-involving climate is highly related with an increase in students' metacognitive activity which can lead in deeper learning. It seems that these results are also related with the selection of appropriate teaching approaches.

PI.48

What Volleyball coaches value about psychological competences: a comparative study according to coaching experience and coaching education.

Patrícia Coutinho (Sport Faculty, University of Porto, Portugal)
António Rosado (Faculty of Human Kinetics, Technical University of Lisbon, Portugal)
Isabel Mesquita (Sport Faculty, University of Porto, Portugal)

The purpose of this study was to gain insights into Volleyball coaches' perceptions about the value given to some psychological competences developed during the long-term athlete development, according to their coaching experience and coaching education level. The psychological competences analyzed were:



self-confidence, goal orientation, commitment, stress management and flow state. The study involved 79 Volleyball coaches. The psychological competences were analyzed through five long-term developmental stages adapted by Côté et al. (2003) and Balyi (2000): stage 1 (ages 6/8 – 12), stage 2 (ages 13-14), stage 3 (ages 15-16), stage 4 (ages 17-19) and stage 5 (ages +19). Data analysis procedure included a Likert scale questionnaire with five levels. One-Way ANOVA test was used to compare groups according to coaching experience and coaching education level.

Results indicated that coaches attributed the same importance to self-confidence, goal orientation and commitment for each developmental stage, regardless their coaching experience and coaching education. However, inexperienced coaches gave more value to stress management during second and third stages than the experienced coaches. In turn, flow state was also more valued by inexperienced coaches in all stages than by more experienced ones.

PI.49

Coach`s Verbal Communication and Athletes Performance during volleyball matches.

Peter Kacúr (Faculty of Sports, Slovakia)

Terézia Slancová (Faculty of Sports in Prešov, Slovakia)

Klaudia Zusková (Pavol Jozef Safarik University in Kosice, Slovak Republic)

Background:

Communication serves as a significant element within coach-athlete`s social interaction and the direct measure of communication in sport context should be taken into extended consideration. The level of coach`s communication skills plays important role in the way of strengthening coach-athlete relationships and it is an conciliator of athletes` performance in team sports.

Design/Participants:

This study investigated coach`s verbal communication in the social interaction with players during volleyball matches.

Materials/Methods:

Video and audio recordings of coach`s communication were captured during volleyball matches. Recorded materials were transcribed using the programme CLAN (Computerized Language Analysis) of the system CHAT (Codes for the Human Analysis of Transcript) and coded according to a communication typology modified from Bowers et al. (1998) and a feedback typology modified from Mc Gown (1994). Sequential analysis of coded material was computed using Discussion Analysis Tool software (Jeong, 2003).

Results/Conclusions:

The results indicate that regardless of the match`s result most communication statements were emotional and action ones. Furthermore, results demonstrated differences within the balance between coach`s motivational and formative feedback during winning and losing matches. Coach exhibited significantly different communication sequence during winning matches compared to the losing matches. The frequency of coach`s usage of emotional statements increased during losing matches. On the contrary, the number of action statements increased during winning matches.

PI.50

Differences in perception of team motivational climate in regard to coaches' goal orientation profiles.

Renata Baric (Faculty of Kinesiology, University of Zagreb, Croatia)

Perception of motivational climate is a function of dispositional and situational factors. It may represent athletes' collective goal orientation manifested in their behavior depending on external signs, mainly coach's behavior. Goal perspective theory holds that personal goals influence an individual's thinking, feeling and actions in sport context. Dispositional goal orientation influences the selection of cues a person captures from the environment. Coaches with different goal orientation profile would perceive the motivational climate in their teams differently that have different practical implications. According to the matching hypothesis, compatibility between a person and the environment results in better adaptation, higher efficiency, satisfaction, etc. (Newton, Duda, 1999). The aim was to examine differences in coaches' perception of motivational climate in their teams



in regard to coaches' goal orientation. 51 Croatian male football, handball and basketball coaches formed four profiles (high task/ego-12; high T/low E-11, low T/high E-10, low T/E-18 coaches). The results showed prevalence of mastery motivational climate. ANOVA showed statistically significant differences in perception of performance motivational climate ($F=5.068$, $df=3$, $p>.004$). Coaches of high task and ego profile perceived less signs of performance climate (2.52) in their teams than highT/low E (3.30) and low T/E coaches (3.19). If goal orientation profile is ambivalent or weak the situational cues seem to prevail in perception of team motivational climate. On the other hand, if goal orientation profile is better defined and strong the dispositional factors are more prominent. Coaches who are mainly task oriented perceive less signs of performance motivational climate that is congruent with their goal profile and with presumptions of Achievement Goal Theory (Nicholls, 1989).

PI.51

The role of teacher and peer climates in physical education.

Victoria Warburton (University of East Anglia, UK)

Objectives:

The purpose of the study was to examine the independent and interactive effects of perceptions of peer- and teacher-created climates in physical education. Specifically, the predictive utility of perceptions of mastery and performance teacher and peer climates on pupils' cognitions, affect and behaviour were assessed.

Design:

Cross-sectional.

Method:

Six hundred and fifty male and female pupils in Years 7, 8 and 9 of a secondary school in the UK completed measures of perceptions of teacher and peer climates, approach-avoidance goal adoption, self-esteem, attitudes towards physical activity, and leisure-time physical activity.

Results:

Hierarchical regression analyses were conducted using SPSS version 16.0 to test whether perceptions of a mastery and performance teacher climate or perceptions of a mastery and performance peer climate were significant predictors of pupils' approach-avoidance goal adoption in physical education, self-esteem, attitudes towards physical activity, and leisure-time physical activity. Age and gender differences were also assessed.

Conclusions:

Theoretical and applied implications will be discussed in relation to the role of the teacher and peers in influencing young people's cognitions, affect and behaviour both within and beyond the physical education setting.

PI.52

The relationship between parental modeling and child and adolescent physical activity in dependency age and gender.

Anne Reimers (University of Konstanz, Germany)

Darko Jekauc (University of Konstanz, Germany)

Filip Mess (University of Konstanz, Germany)

Alexander Woll (University of Konstanz, Germany)

Background:

Physical activity (PA) is necessary for healthy development in children and adolescents. Social learning theory proposes that children learn by imitating the behavior of their social models. The purpose of this study was to determine whether parental modeling of PA in interaction with age and gender explains leisure time PA of children and adolescents.

Methods:

The Motoric Module is a representative German study on motor abilities and PA among children and adolescents. The sample includes 4529 participants aged between 4 and 17. PA was assessed by self-report



(4 to 10 years: parent report) using a questionnaire on the settings of school, club, leisure time sport and everyday activity, which includes the duration, intensity and frequency of the children's activities. Participants were also asked if their parents are regularly physically active.

Results:

Both the mother's as well as the father's PA are significant predictors for leisure time PA participation of children and adolescents. The father is a significant model for girls and boys of all age groups. The mother is a significant model for girls of all age groups, for boys only at an age of 6 to 10 years. Concerning the amount of leisure time PA neither the mother nor the father's PA are significant predictors.

Conclusions:

The results of this study can largely confirm the differential assumptions of social learning theory.

Keywords:

Children, parents, physical activity, models, social learning theory

PI.53

Parenting Styles of Support Perceived by Individual Athletes.

José Roberto Andrade do Nascimento Junior (Universidade Estadual de Maringa, Brazil)

Fernanda Soares Nakashima (Universidade Estadual de Maringa, Brazil)

Yara Lis de Paula Baraviera (Universidade Estadual de Maringa, Brazil)

Evelynn Larissa Sander (Universidade Estadual de Maringa, Brazil)

Tiago Marques de Lívio (Universidade Estadual de Maringa, Brazil)

Lenamar Fiorese Vieira (Universidade Estadual de Maringa, Brazil)

In the process of athlete's development family has a significant participation. The different parenting styles can affect the development of the child's personality and this will reflect on his behavior in different contexts. This study aimed to analyze the style of perceived parental support for athletes. The subjects were 173 athletes from individual sports of both genders. The instruments used were the Parental Support Scale (EMBU). Data collection was performed at the competition's places and in the lodging for athletes. Statistical analysis used was the Kolmogorov-Smirnov, Wilcoxon and "U" Mann-Whitney tests for $P > 0,05$. The results showed that parenting style that prevailed in accordance with the athletes was the support; in the comparison between genders, was demonstrated a significant difference ($P = 0,00$) in perceived maternal overprotection, indicating that female athletes perceive themselves more overprotected by the mother; when comparing female athletes medalists with non-medalists, it was found a significant difference ($P = 0,02$) in maternal overprotection, the non-medalists see their mothers as more overprotective. Therefore, it was concluded: the athletes have perceived that parents have the style of support, which can be considered ideal because it represents an appropriate involvement throughout the athletic career, on the other hand, overprotection was a factor that interfered in the search of results for females.

PI.54

Perceptions of Jordanian Young Athletes' Parents Towards Sports Psychologists.

Mervat Deeb (Al-Balqa Applied University, Jordan)

Tawfeeq Albakry (Umm al-Qura University, Saudi Arabia)

The study aimed at identifying the knowledge of Jordanian players' parents (under 16 years) of the Sports Psychologists job nature and their attitudes towards them according to the variables (gender, type of sports, and educational level of parents). The sample consisted of 1715 parents using comprehensive survey, divided in two groups; 820 parents for individual game players and 895 parents for group game players. The researchers used the sports psychologists' questionnaire and the attitude questionnaire towards sports psychologists. The data was analyzed using Chi-square test and MANOVA. The data analysis indicated that there were negative attitudes and knowledge towards sports psychologists and they were not affected by gender, sports type, and the educational level of the parents. The researchers recommended adopting a strategy at the level of Jordanian Olympic Committee, Federations, and Sport clubs to focus on the importance of the positive role of sports psychologists whether on the achievements of the players or on their parents' attitudes.



PI.55

Analysis of parental satisfaction as users after a campus child multisport.

Santiago López Delgado (Ayuntamiento de L'Elia, Spain)

Eva León Zarceño (Universidad Miguel Hernández de Elche, Spain)

Irene Checa Esquiva (Universidad de Valencia, Spain)

Juan González Hernández (Universidad de Murcia, Spain)

A traditional topic of interest in sport is to know the conditions that promote adhesion to various physical activity programs. In addition, when practicing sports are mainly children need to preserve the playful aspects of the sport. Also for the person not leave the sport is essential to inquire about customer satisfaction with the service offered. This work was two aims. First to promote psychological aspects related to the priorities of youth sports for implementing the program multicampus and, secondly, to know the rates of parental satisfaction of users. We evaluated, with an ad hoc questionnaire, a total of 46 parents of both sexes with a mean age of 36.6 years, whose children were involved in the multisport kids campus. This paper discussed, among other things, those related to parental satisfaction with both the monitors as the facility upon completion of the program whose duration was 5 weeks divided into two shifts of fifteen days and a shift in June week. The results indicate that, in general, users showed high levels of satisfaction with the program of activities.

PI.56

The influence of parental involvement on adolescents perceived motivational climate in tennis.

Virginie Hurtel (Laboratoire SPMS, France)

Objectives:

The purpose of this study was twofold: (a) examine the influence of parental involvement on perceived motivational climate of adolescent tennis players and (b) compare this influence according to the child's stage of sportive development (sampling and specializing years) and to the parental sex.

Method:

198 families (198 fathers, 198 mothers, 198 adolescents) participated in this study. Parents completed questionnaires assessing their logistic, emotional and informational implication as autonomy, directivity and pressure they express towards their child who plays tennis. Adolescents filled in questionnaires evaluating their perception of the motivational climate established by their parents.

Results:

Data analyses first revealed that mastery motivational climate is only correlated with emotional support whereas performance motivational climate is correlated with informational support, logistic support, directivity and pressure. The first link is all the more important since it concerns mothers' involvement and adolescents in sampling years. The second one is more significant when it implies fathers and adolescents in specializing years. Then, multiple regression analyses confirmed that emotional support is the strongest predictor of mastery motivational climate in sampling years and that father's logistic support represents the best predictor of performance motivational climate. The more fathers take their child to tennis trainings or matches and are present at these events, the more adolescents perceive that their parents are satisfied when then win or are better than the others.

Conclusion:

The findings highlight the specific influences of mothers' and fathers' implications on the way adolescent tennis players perceive the motivational climate established by their parents.



PI.57

Specific cooperation between visually disabled athletes and 'guides'.

Dieter Teipel (Friedrich-Schiller-Universität, Germany)

Introduction:

In general, the visually disabled athletes need a specific way of cooperation with nondisabled 'guides'. In such dyads, the nondisabled 'guide' must invest a lot of time in training sessions and competitions. The present study is related to the specific form of cooperation between visually disabled athletes and nondisabled 'guides' in summer and winter sports.

Method:

In terms of qualitative research problem-centered focused interviews were conducted with 10 visually impaired high-level athletes (6 males and 4 females) in short- and middle distance running and team-biking and with 6 athletes (4 males and 2 females) in biathlon, cross-country skiing and alpine skiing.

Results:

The visually disabled athletes expected the 'guides' to act as a middle- or long-term partner, coach and counsellor. They wished that the 'guides' should create a positive emotional atmosphere in everyday and sport-related life, provide task-related precise instructions and feedback information and apply motivation strategies especially in failure situations. In specific dyads, the pairs had developed concrete ways of verbal and material-oriented communications. These forms of cooperation were related to almost permanent short verbal instructions on the even or curved track in middle-distance running, cross-country skiing or biathlon. Unfortunately, false instructions had resulted in accidents and disqualifications.

Conclusion:

Obviously, the high-level sport of visually disabled and nondisabled 'guides' requires specific forms of individual counselling and coaching. The visually impaired athletes should be supported financially and job-related in the recruitment of 'guides' in specific summer and winter sport disciplines.

PI.58

The relationship between continuum self-determination, perception of success and group cohesion in football players.

Dora Ferreira (Escola Superior de Desporto de Rio Maior, CIDESD, Portugal)

The purpose of this study was to investigate the relationship between self-determination, group cohesion and the perception of success in 198 football players.

The participants completed the portuguese versions of the Group Environment Questionnaire, Perception of Success Questionnaire and Self-Determination Continuum application. The data were analyzed through study of Pearson's Coefficient Correlation, with $p \leq 0.05$. The results showed positive relationship between Intrinsic Motivation and Perception of success-Ego ($r=0.160 \pm 0.05$) and to Perception of Success-Task ($r=0.203 \pm 0.01$). On the other hand, the results showed negative relationship between amotivation, GI-S ($r=-0.213 \pm 0.01$), GI-T ($r=-0.182 \pm 0.05$), ATG-T ($r=-0.381 \pm 0.01$), ATG-S ($r=-0.272 \pm 0.01$) and perception of success oriented to Task ($r=-0.271 \pm 0.01$). GI-S and GI-T are negatively related with Amotivation ($r=-0.213 \pm 0.01$ and $r=-0.182 \pm 0.05$ respectively), however, IG-T is positively related with Perception of success oriented to Task ($r=0.142 \pm 0.05$). As a conclusion, the results showed a relationship between Group Integration and Intrinsic Motivation and a lower relationship between Integration Group and Extrinsic Motivation and Amotivation.

PI.59

Meta-Analytical Review on Cohesion and Performance in Sports.

Edson Medeiros Filho (Florida State University, USA)

Urška Dobersek (Florida State University, USA)

Lael Gershgoren (Florida State University, USA)

Itay Basevitch (Florida State University, USA)

Research has consistently shown that group cohesion and performance in sports are intimately related (Cox,



2002). Due to the complex nature of this relationship, previous primary research and meta-analytical reviews have not been conclusive (Carron, Colman & Wheeler, 2002). In this meta-analysis we adopted current multivariate procedures to determine the (a) direction and magnitude of the cohesion-performance relationship in sports over the last decade, and (b) impact of various moderator variables on this relationship. A comprehensive literature search was conducted into leading journals and databases on the field (i.e., PsycINFO, SPORTDiscus, and Web of Science) allowing 186 initial studies. Seventeen primary studies met our inclusion criteria (i.e., inquiries on the cohesion-performance relationship in sport conducted between 2000 and 2010) allowing the computation of 118 Effect Sizes (ES). Homogeneity analysis ($Q = 109.48, df = 15, p < .01$) indicated the adoption of a mixed effect model. Results revealed a statistically significant (a) moderate relationship between overall cohesion and performance ($ES = .34, p < .01$), (b) large relationship between task cohesion and performance ($ES = .45, p < .01$), and (c) small relationship between social cohesion and performance ($ES = .11, p < .01$). Gender, sport type, and athletes' skill level were found to be significant moderators of the cohesion-performance relationship. Results were interpreted in line with previous research and theoretical frameworks on cohesion and performance in sports. Practical implications for enhancing team cohesion include the importance of considering group characteristics to develop effective intervention programs and team-building activities.

P1.60

Developing of Team Cohesion and Team Commitment (TC&TC) Scale: Validity And Reability Studies.

Caliskan Gokhan (Healthy Science, Turkey)

Arif Ozer (The Faculty of Vocational Education, Turkey)

Azmi Yetim (Sports Management, Turkey)

Team cohesion and team commitment are vital in organizations and sports team success. The purpose of the study is to develop Team Cohesion and Team Commitment (TC&TC) scale in sports. The participants were 341 professional soccer players from the Turkish Super League (TSL). They played in the 1st League and the 2nd League B between 2009 and 2010 years. TC&TC Scale consists of 11 items on two factors. Data was analyzed by using Confirmatory Factor analysis, Manova and cronbach alpha coefficient. Results revealed that the scale has quite high construct validity and internal consistency coefficients. Additionally, TSL players have higher scores than 2nd League players at team cohesion and team commitment.

P1.61

Team Building Program Based on a Structured Group Encounter For Female Japanese Kendo Team.

Hironobu Tsuchiya (Osaka University of Health and Sport Sciences, Japan)

In this study, an original team building intervention program was developed as a kind of structured group encounter that consisted of psychological skills training and an intensive group experience. The program consisted of 6 sessions including self assessment for psychological competitive ability, goal setting, relaxation and mental imagery, analysis of their peak performance, concentration, and team routine. Each session intended to facilitate performance enhancement through psychological skill training and mutual sharing of the team members. The study examined whether the program would positively influence an elite female athlete team in a world competition.

Methods:

The participants of this study were female Japanese national Kendo team athletes ($N=10$) and their coaches ($N=3$) for the 14th world Kendo championship in Brazil, 2009. Each player participated in the intervention program facilitated by the certified sport psychology consultant, and answered a questionnaire which was composed of the short version of diagnostic inventory of psychological competitive ability (DIPCA-S) and self rating scale for psychological condition at two occasions; pre intervention (pre) and post intervention (post). In-depth interviews for coaches were designed to evaluate the effects of the program on team functioning and performance enhancement.



Results and Discussion:

The t-test yielded significant effects showing that total scores of the DIPCA-S and self rating scale for psychological condition increased at post (total scores of the DIPCA-S; $t=3.90$, motivation; $t=4.97$, relaxation; $t=3.94$, confidence; $t=3.51$, $p<.05$). In addition, the coaches reported that improvement was observed in both team cohesion and member's attitude towards practice after the intervention program. The performance goals which set by the all Japan kendo federation at the target competition were attained by all team members, as they won the championships both individual and team match. This approach has a strong conceptual grounding and the findings suggest it is an effective approach to team building in elite level athlete. Future work is needed to explore the relationship between team process and the program contents presented here.

Note:

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PI.62

Appearance of The «Spirit» in Athletic-Team Interaction.

Andriy Kolosov (State Scientific Research Institute of Sport, Ukraine)

Investigation of the personal sufferingses of the athlete and their synergy, may created in sport common activity, has served as a reference scientific research of the phenomenon "team spirit", its natures, indicator and determines. It became possible in context of the development such phenomenon, as subjectivity in professional activity (Lomov B., 1984), imbalanced psychik states (Prokhorov À., 1998), «flow state» (Csikszentmihalyi M., 1999), spirituality of professional (Ponomarenko À., 2007), team psychological climate (Platonov È., 1976), common activity (Ananiev B., 1982), team cohesion (Carron A.V., 2002), group subject of activity (Zhuravlev À., 2007), team roles (Belban M., 1984) è äð.

One of analysis way quality of common sufferingses are team roles (Belban-test), which configurate integrity of the team. Beside femenin national fencing teams (sabre/fluert/epee) of the Ukraine there discovered statistic differences in such roles as «team worker» ($H=4,04$; $p=0,11$; $v=2$; $n=12$) accordingly $M=17,25\pm4,7/10,0\pm4,6/11,75\pm3,2$, «completer» ($H=5,6$; $p=0,07$; $v=2$; $n=12$), accordingly $M=7,25\pm2,4/8,25\pm4,6/11,4\pm3,2$. Beside masculin – there discovered statistic differences in another roles: «implementator» ($H=4,27$; $p=0,09$; $v=2$; $n=12$), accordingly $M=12,0\pm5,2/4,75\pm4,3/8,00\pm6,2$ and «shaper» ($H=3,63$; $p=0,12$; $v=2$; $n=12$), accordingly $M=10,0\pm6,8/8,50\pm2,6/13,25\pm2,6$.

The real experience of the mutual sufferings of peak psychic state, appearing in the sport common activity, brings to formation of semantic and simultaneously voluptuous category - "spirit". It promotes by "expansion of the consciousness", more exactly reinforcement of all cognitive possibilities of the athlete, occurring, through the maximum "openness" and super sensitivity to both externals information-energy massages, and individual or collective contenteses of the subconscious.

PI.63

Constructive Intrateam Competition in CIS Team Sports.

Sebastian Harenberg (University of Regina, Faculty of Kinesiology and H, Canada)

Karreman Erwin (University of Regina, Faculty of Kinesiology and Health Studies, Canada)

Riemer Harold A. (University of Regina, Faculty of Kinesiology and Health Studies, Canada)

Dorsch Kim D. (University of Regina, Faculty of Kinesiology and Health Studies, Canada)

The vast majority of research comparing competition to cooperation has favored cooperation over competition in terms of positive outcomes (i.e., interpersonal relationships and group productivity). However, Stanne, Johnson, and Johnson (1999) have shown that appropriately structured competition can lead to positive outcomes in motor skill tasks. They hypothesized that the structure of competition determines the constructive nature of the outcomes.

In an athletic context, competition and cooperation play an important role for the dynamics within a team (intrateam). Coaches frequently use competitive structures during practices. Even though competition has been widely examined in a sport-psychological context, there is a considerable gap of research on how coaches structure competition within their teams to result in constructive outcomes. This study sets out to examine the factors, which contribute to constructive competition within teams.

Ten coaches at the Canadian Interscholastic Sports (CIS) level (female = 2) participated in this study. A semi-structured interview technique asking questions about the structure (i.e., "Do you purposely induce

situations of intrateam competition?") and consequences (i.e., "Do you think that competitive behavior among and between your athletes contributes to the performance of the team?") of constructive intrateam competition was used to collect data. Through inductive reasoning the data was analyzed and themes emerged from the data.

The results showed that all coaches used competitive structures within their teams. The structure of the competition and constructive outcomes will be discussed. Future research directions will also be highlighted.





Poster session 2 | Wednesday, July 13th | 16:00-18:00

P2.01

Effect of Caffeine on Leg-Muscle Pain and Possible Role of Trait Anxiety during Intense Exercise in Male Basketball Player.

Alireza Rahimi (Azad University, Iran)

Introduction:

In the recent years, athletes' tendency toward supplements has been increasing significantly. Although changes occurred at doping drugs throughout the world, unfortunately there hasn't been any reflection in sport community of the country and no effort accomplished to inform people.

Methods:

This research studies the effect of average dose of caffeine as a supplement on muscular pain feeling of leg and rate of perceived exertion during intense exercise in male basketball players. Also the influence of trait anxiety on these effects is investigated. The samples were 24 basketball player boys who were chosen randomly. At first, the rate of their state anxiety was measured by using State-Triate Anxiety Espile Berger questionnaire. Then in two sessions each with one week interval, they intake placebo or caffeine. After one hour resting, whit static manner, they exercised for 30 minutes with 80% HRR on cycle ergo meter. Every five minutes, the related information by using Cook?et.al questionnaire and Borg?s rate perceived exertion questionnaire was recorded. The data analyzed by using manova, co variance analyzing and LSD post hoc.

Results:

Exercise: Possible Role of Anxiety Sensitivity. International Journal of sport Nutrition and Exercise Metabolism. The result indicated that caffeine decreased the rate of intense pain of quadriceps during intense exercise, and increased pain threshold significantly. The heart rate was increased and the rat of perceive exertion was decreased.

Discussion:

The trait anxiety change the effect of caffeine on the rate of intense pain of muscle, but it did not affect on caffeine influence on the rate of change of pain intense. Also trait anxiety caused decreasing the effect of caffeine on pain threshold.

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P2.02

Effects of Acute Aerobic Exercise on Electroencephalogram during the Wisconsin Card Sorting Test: A Preliminary Study.

Chien-Heng Chu (National Taiwan Sport University, Taiwan)

Shin-Hsien Yen (National Taiwan Sport University, Taiwan)

Wu-Chou Chen (National Taiwan Sport University, Taiwan)

Chun-Chih Wang (National Taiwan Sport University, Taiwan)

Yu-Kai Chang (National Taiwan Sport University, Taiwan)

Substantial research has examined the influence of acute exercise on cognitive performance. Nevertheless, the influence of acute exercise on the executive function, through either electroencephalogram (EEG) or neuropsychological measurements, has only recently drawn attention. The Wisconsin Card Sorting Test (WCST), one of the most well-established tests for evaluating the executive function, has been designed primarily to assess both abstract and preservation thinking and is reported to be associated with the changing of alpha and beta bands. However, to date, no studies have incorporated EEG measurements during the WCST regarding the effects of acute exercise. Hence, the purpose of this study was to investigate acute exercise effects on alpha and beta bands associated during the WCST performance. 4 healthy male college



students aged 25 to 27 years were recruited. Participants were instructed to perform WCST in both baseline, and 5 minutes after either exercise or control condition, on different days, in a counterbalanced design. An EEG was collected on F3, F4, F7, F8, T7, T8, C3, C4, P3, P4, P7, P8, O1 and O2. The exercise condition involved 30 minutes of ergometric cycling with each individual's 60% Heart Rate as maximal. A two-way repeated ANOVA was computed for conditions (baseline and exercise) and times (pre- and post- conditions). The results indicated that there was no significant interaction effect between times and conditions, in either the alpha nor beta bands. However, there was a trend regarding the interaction between the conditions and times, that shows conditions have a main effect on F3, F4, F7, T7, P3, P4, P8 for both alpha and beta bands. These findings suggest that exercise-induced cognitive benefits might have potential effects on an EEG when conducting executive function related task.

P2.03

Effect of Terbutaline (Beta2-agonist) on the Level of Post-Effort Arousal.

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Giacomo Crivelli (University of Lausanne, Switzerland)

Marie-Amélie Le Fur (Montpellier University, France)

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Fabio Borrani (University of Lausanne, Switzerland)

Guillaume Py (Montpellier University, France)

Robin Candau (Montpellier University, France)

Part of the ergogenic effects of β_2 -agonists are believed to be due to their stimulating psychotropic effect since β_2 -adrenergic receptors are ubiquitous. The purpose of the present study was to analyze the psychological effects of Terbutaline, when this β_2 -agonist was administered orally (8 mg) to athletes. Seven healthy males voluntarily participated in two sessions corresponding to two experimental conditions: ingestion of Terbutaline vs. ingestion of its placebo. Terbutaline or placebo was ingested 3 hr before performing an exercise on a cycloergometer until exhaustion at an intensity corresponding to 50% between the ventilatory threshold and maximal oxygen uptake intensities. Right after the test, participants completed Russel, Weiss, and Mendelsohn's (1989) Affect Grid which measures affect along the dimensions of pleasure-displeasure and arousal-sleepiness. The ANOVAs showed a significant effect ($p < .05$) only for the arousal-sleepiness dimension. The ingestion of Terbutaline entailed a lower level of post-effort arousal than did the ingestion of the placebo. This unexpected tranquillizing effect may be interpreted as a negative secondary effect of Terbutaline which was administered in supra-therapeutic doses in the present study. Future research is needed to examine the psychological effects of Terbutaline at therapeutic doses.

P2.04

Red coloured outfit enhance heart rate and strength in a combat sport.

Dennis Dreiskämper (University of Münster, Institute of Sport Science, Germany)

Norbert Hagemann (University of Kassel, Germany)

Research in combat sports like boxing, taekwondo and wrestling shows a positive influence of red colour on the outcome, especially if fighters have similar abilities (Hill & Barton, 2005). Hagemann, Strauss & Leißing (2008) have shown that referees in taekwondo favours athletes dressed in red coloured jerseys. However, it is unclear whether the biased judging of the referees or the performance of the athletes or both are responsible.

In this study we investigate whether wearing red coloured taekwondo equipment has an influence on heart rate and strength. An artificial, experimental combat situation was created. 14 pairs of athletes with similar weight, height and age, had to fight twice against each other using so called smash sticks, once in a red jersey and once in a blue. Heart rate was measured during the fights and strength before the fight started.

We found that participants have a higher heart rate ($M_{red} = 162.00$, $SD_{red} = 12.96$; $M_{blue} = 155.71$, $SD_{blue} = 155.71$), $t(27) = 2.55$, $p < .01$, $d = 0.48$ (one-tailed) and higher values on the strength test before the contest ($M_{red} = 194.38$, $SD_{red} = 49.15$; $M_{blue} = 175.84$, $SD_{blue} = 45.66$), $t(27) = 1.92$, $p < .05$, $d = 0.36$ (one-tailed) when wearing red equipment. The outcome of the combats weren't influenced by the colour.

As it's already evident that referees' assessment is influenced by jersey colour (Hagemann et al., 2008), our results now show that opponents' physiological parameters are also influenced by wearing red equipment.



P2.05

The Effect of Acute Resistance Exercise on the Tower of London Test in Middle-Age Adults.

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Tzu-Hui Kuo (National Taiwan Sport University, Taiwan)
Chun-Chih Wang (National Taiwan Sport University, Taiwan)
Kun-Wei Tu (National Taiwan Sport University, Taiwan)
Yu-Kai Chang (National Taiwan Sport University, Taiwan)

Exploring the relationship between acute exercise and cognitive function has received particular attention recently. However, regarding the previous studies, most have limited their attention to the effects of aerobic exercise on either younger or older populations. In addition, no study has focused on planning, a main category of executive function. Therefore, in order to advance the understanding of this research area, the purpose of this study was to examine the effects of an acute bout of resistance exercises on executive function in middle-aged adults. The measurement tool was the Tower of London (TOL) Task, one of the main neuropsychological assessments for planning. Twenty participants (age = 43.65 yrs, SD = 8.52) were recruited and instructed to experience resistance exercise and control conditions with counterbalanced order. The resistance exercise conditions consisted of a protocol including 2 sets at 70% 10 repetitions maximal for nine different muscle exercises. The TOL Task was administered before and after the treatment conditions. A Paired-samples t-test was computed for differences scores between times on several subcomponents of the TOL Task, respectively. The results indicated that there is a significant positive exercise effect on the TOL Task in terms of the Total move score and the Total correct score. In addition, none of these differences were found in other error related score and time related score. The results suggest that acute resistance exercise is beneficial in planning, particularly concerning variables related to move performance, while no influence was found regarding others variables.

P2.06

Reduced ad libitum chocolate snacking after brisk walking is mediated by increases in affective activation, among regular chocolate eaters.

OH Hwa Jung (University of Exeter, UK)

Weight gain can occur in response to small daily increases in energy intake. Brisk walking can reduce chocolate cravings (Taylor & Oliver, 2009), but the effects on chocolate snacking when engaged in simulated work, among regular eaters, is unknown. 33 males and 45 females (age 24.90 ± 8.15 years, BMI 23.56 ± 3.78) abstained from chocolate for 2 days. They were randomly assigned to one of four conditions, involving either a 15 min brisk walk or quiet rest, and then either a low or high demanding computerised mental task (ie, Stroop)(ie, 4 or 1 sec inter-stimulus interval, respectively). After completing three 180 sec task blocks participants had 90 secs during which they could freely eat from a pre-weighed bowl of unwrapped chocolates ('maltesers' and 'buttons'). The 11-point Feeling Scale (FS) and the 6-point Felt Arousal Scale (FAS) were administered throughout. A two-way ANOVA revealed no condition x task demand interaction but a significant main effect of exercise [$F(1, 74) = 7.12, p < .01$]. The two exercise groups ate significantly less chocolate than those in the two passive conditions ($t = -2.69, 95\%$ Confidence Interval for difference 3.4 to 22.9, effect size 0.61)(mean (SD): 15.6 (19.6) v. 28.8 (23.5) grms). Changes in FAS, from pre-post exercise, appeared to mediate the effects of exercise on eating, with less chocolate consumption being associated with greater increases in affective activation. A short bout of moderate intensity exercise (compared with being passive) may help to reduce ad libitum chocolate consumption among regular chocolate snackers.

P2.07

Effects of yoga on perceived stress and cardiac autonomic control.

I-Hua Chu (Kaohsiung Medical University, Taiwan)
Cheng-De Shen (Kaohsiung Medical University, Taiwan)

Objective:

To study the effects of an eight-week yoga program on both perceived stress and cardiac autonomic control in healthy female adults.



Method:

A total of 60 healthy female volunteers were randomized to either yoga group (n=30; mean age=30.7±10.2) or control group (n=30; mean age=25.3±6.1) for a period of eight weeks. The yoga program was 60 min per session, twice per week. Each session included 5 min breathing exercise, 40 min asana practice, and 15 min meditation/relaxation. The perceived stress (measured by Perceived Stress Scale [PSS]) and cardiac autonomic control (measured by heart rate variability [HRV]) were measured at study entry and eight weeks later. Participants who did not complete post-test evaluations were considered dropouts.

Result:

Fifty-two participants completed the study. The average attendance rate for yoga sessions was 79.2%. There was a significant decrease in perceived stress in the yoga group (p=0.015) but no change in the control group after eight weeks. The analyses of HRV showed no change in high frequency power (HF), low frequency power (LF), and low to high ratio (LF/HF) in both yoga and control groups.

Conclusion:

Regular yoga practice seems to reduce perceived stress in healthy female adults. However, there is no apparent effect of yoga practice on cardiac autonomic control in this population.

P2.08

Acute Step Climbing Exercise and Neurocognitive Function in Healthy Preschool Children.

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Peng-Chun Lin (Taipei Municipal University of Education, Taiwan)

Chung-Ju Huang (Taipei Physical Education College, Taiwan)

Tsung-Min Hung (National Taiwan Normal University, Taiwan)

The main purpose of this study was to investigate the effects of a moderate step climbing exercise on the neuro-electric indexes used for cognitive control of attention. Twenty preschool children (mean age = 5.5 yr) were recruited to participate in this study and were randomly assigned into step climbing (SC, n=10) and control (n=10) groups. The baseline session involved working on the flanker task, which varied the amount of cognitive control required. The flanker task consisted of five blocks, each containing 32 trials (congruent: 50%; incongruent: 50%). In each exercise session, the SC children completed 10 minutes of step climbing at 60% maximum heart rate followed by another round of the flanker task after heart rate returned to within 10% of pre-exercise levels, whilst the control group children sat for 10 minutes and then completed the flanker task. ERPs were recorded from 6 electrode sites (i.e., F3, Fz, F4, P3, Pz, and P4). The results showed that in incongruent conditions, the P3 latency in SC group children was shorter than that of the control group. This finding suggests that moderate intensity aerobic exercise may improve cognitive control of attention in preschool children, and it is important to note that even a single bout of exercise might affect specific underlying processes that support cognitive health and development in young children.

P2.09

Effects of Acute Aerobic Exercise on Electroencephalograms during the Tower of London Test: A Preliminary Study.

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Wu-Chou Chen (National Taiwan Sport University, Taiwan)

Feng-Tzu Chen (National Taiwan Sport University, Taiwan)

Yu-Kai Chang (National Taiwan Sport University, Taiwan)

Many studies have examined the impacts of acute exercises on cognition. Recently, researchers have started to focus on the influence of acute exercise on executive functions. By utilizing neuropsychological measures as well as the measurements from the electroencephalogram (EEG), more and more exciting findings have been reported. The Tower of London (TOL) Task is a type of assessment for measure the planning of executive function. Nevertheless, none of these studies have been conducted investigating the change in an EEG during the TOL Task following an acute exercise. Therefore the purpose of this study was to investigate the influence of acute exercise on alpha and beta bands during performance of the TOL Task. Four healthy college students (M=23 yrs) were recruited and took part in both exercise and control conditions with counterbalanced order.



Participants were evaluated by the TOL Task in both baseline and immediately after either exercise or the control conditions. The exercise condition involved 30 minutes of ergometric cycling with each individual's 70% Heart Rate Maximal. An EEG recording was collected on the locations of F3, F4, F7, F8, T7, T8, C3, C4, P3, P4, P7, P8, O1 and O2. A two-way repeated ANOVA was computed for alpha and beta activity during the TOL Task. The results indicated that no significant interaction effects between times and conditions were found. However, an alpha band trend regarding the interaction between times and conditions at the C3 location was found. The current preliminary study suggests that acute exercise might have potential cognitive influence on the participants.

P2.10

The effect of mental training on precision tasks in tennis, volleyball and soccer.

Darko Jekauc (University of Konstanz, Germany)

Khaled Hegazy (University of Konstanz, Germany)

Mental rehearsal, a practical psychological tool to improve performance of closed motor skills, is now widely used by athletes and coaches (Coelho et al., 2007). Therefore, the aim of this study was to analyse the effects of mental training on precision in different ball games in sport.

Methods:

This investigation used a quasi-experimental design with a pre- and posttest (Isaac & Michael, 1983). The experimental group received both technical practice and mental training units at home and the sports ground. The control group received only technical practice. A total of 120 respondents (65 male, 55 female) are amateur athletes with high skill level in three different sports (tennis, volleyball and soccer) were assessed. The respondents were aged between 17 and 28 years. The dependent variable was measured by a precision test.

Results and Discussion:

The results of ANOVA with repeated measurement show a significant interaction effect between time and group. This improvement of precision in the experimental group in comparison to the control group demonstrates the effectiveness of positive imagery on closed motor skill performance in all three sports.

P2.11

Acoustic model and imagery in Gymnastic Application for the pommel horse.

Diego Tosi (Studio Associato Tosi & Latella, Italy)

The poster will explain how the employment of the acoustic models created "ad hoc" on the athletes can help them to improve their performance on the pommel horse. According with the literature, the employment of an acoustic model in performance in which the timing has an important function helps the athletes to improve their performance. Pommel horse is the exercise between the six exercises of the gymnastic that more than others has a rhythmical component. To improve this component, we record with a camera the single elements of a typical exercise. The athletes perform these elements up they do in a good way. The video file is selected and cut to have a file that starts with the sound from the first touch on the horse up the athletes go out from it.

In a second practice the athletes listen that file with headphones five times immediately before the performance.

We create some files with only one element, and other in which there are some combinations of elements and a complete exercise.

The athletes have once at week an imagery session in which they imagine the single elements or the combination or the exercise. During the imagery session, while they are imaging, they listen the file created by headphones.

Every months a judge evaluate the athletes for the single element, for the combinations and for the exercise. This evaluation is matched with a base line previously taken during the practices.



P2.12

Exercisers' voluntary and spontaneous imagery experiences.

Elin Johnsson (Halmstad University, Sweden)

Exercisers have reported to experience several positive effects from using imagery (Kim & Giacobbi, 2009). However, no previous research has focused explicitly on exercisers' spontaneous imagery experiences. The objectives of this study were therefore to examine exercisers' voluntary and spontaneous imagery experiences. The 15 participants, 9 woman and 6 men ($M = 23$, $SD = 3.34$), were regular exercisers. The individual Profile of Imagery Experiences in Exercise (IPIEE) was used to assess the exercisers' imagery experiences. The IPIEE is a survey that is used as an interview guide. It is modified from the Individual Profile of Imagery Experiences in Sport (Weibull, 2008) and based on the Analytic Framework of Imagery Experiences (Weibull, 2009). When using the IPIEE the exercisers' imagery experiences are assessed using the dimensions of an imagery pattern: Context, Content, Characteristics, Frequency, Effect and Effect on. The results show that for both voluntary and spontaneous imagery the most common imagery content was Exercise situations, followed by Non-exercise related events/situations. The most common purposes for using the imagery patterns were to increase motivation, improve well being and planning. Regarding spontaneous imagery, the most imagery patterns had an effect on motivation followed by well-being and energy. Most of them had a positive effect but some of them had a negative effect (e.g., on motivation). Since the imagery patterns with negative effects were spontaneous it is possible that the exercisers will be able to manage them by improving their imagery ability.

P2.13

Imagery Contents in Relation to Achievement Goal Theory in Adolescent Swedish Athletes.

M. Christensen Lucia (Halmstad University, Halmstad, Sweden)

During the last decade, sport psychology research based on Achievement Goal Theory (Nicholls, 1984, 1989) has evolved from associations between goal orientation profiles (GOP) and athletes' behaviors such as practice commitment, learning and effort (Roberts, Treasure, & Conroy, 2007), to athletes' use of psychological strategies, such as imagery (e.g., Harwood, Cumming, & Hall, 2003). Harwood and colleagues (2003) revealed that athletes with a complementary balance of task and ego goal orientations use imagery more frequently. However, this study theorized that GOP relate not only to imagery experiences in terms of frequency, but also to the positive and/or negative direction of imagery content. This study was focused on the relationship between GOP and imagery content. Participants were 97 Swedish young athletes ($Mage = 17.7$). Perception of Success Questionnaire (Roberts, Treasure, & Balague, 1998) and Imagery Experiences Survey (Christensen, 2010) were used for data collection. Two K-means cluster classifications revealed that a higher task GOP was related to a more frequent experience of positive imagery contents (i.e., an adaptive imagery experience profile), and a higher ego GOP was related to a more frequent experience of negative imagery contents (i.e., a maladaptive imagery experience profile). Because a high task and high ego GOP was described as being significant for athletic success and peak performance (Roberts, Treasure, & Kavussanu, 1996), practical implications of this study refer to athletes' imagery skills. Athletes with high ego GOP are recommended to learn how to control their imagery and transform negative images into positive ones.

P2.14

An overview of psychological techniques for improving the technical aspect of competitive figure skating.

Malgorzata Turska (Institute of Psychology, University of Silesia, Poland)

Competitive figure skating is characterized not only by the artistic impression of performances, leading to judges and spectators' appreciation, but also by the presence of technically difficult skating skills (Prakash & Coplan, 2003). Especially jumps require performing many complex body movements at the same time (Botwina & Starosta, 2002). The poster presents the use of polisensoric image based visualization (ibidem) for improving a figure skater's jumping technique. It also reveals the possibility of using key-words, accompanied by working with videos (Martin & Toogood, 1997), in order to achieve the mentioned technical improvement. However, as figure skating is not only about sole jumps - a skater needs to perform a complex routine consisting of various technical elements, such as spins and spin combinations, step sequences etc. - other



techniques, such as program blueprinting and floor walkouts, which are considered to be helpful for learning sequences and crucial parts of skaters' routines (Monsma & Feltz, 2005), are presented as well. Finally, the use of mock competitions, maximizing the likelihood of skill transfer from practice to competition (Martin & Toogood, op. cit.), is also mentioned.

P2.15

A one year longitudinal study of an elite ice hockey player's imagery experiences.

Mikael Wallsbeck (Halmstad University, Sweden)

Previous research has found that athletes use imagery in the off season (Cumming & Hall, 2002) and more frequently in the competitive part of the season compared to the beginning (Munroe, Hall, Simms, & Weinberg, 1998). However, no longitudinal study examining athletes' spontaneous imagery experiences during a whole year has been found. The following objectives were examined in the study: (a) the frequency of the player's spontaneous imagery experiences and (b) what the spontaneous imagery had effect on during a year. The Analytic Framework of Imagery Experiences (Weibull, 2008) was used in this study. The framework structures the spontaneous imagery experiences into imagery patterns and its dimensions: Context, Content, Characteristics, Frequency, Effect and Effect on. The imagery pattern/s form/s the player's individual profile. One male elite ice hockey player participated in the study. Each month (starting from October) during one year the player retrospectively reported his imagery experiences using the structure of imagery patterns. In the competitive part of season (October-March) the player experienced 22 imagery patterns (mean frequency = 3.9) and in the off season (April-September) 11 imagery patterns (mean frequency = 3.2). De facilitative imagery patterns had a mean effect of +4.75 and the debilitating imagery patterns -5.9. The most spontaneous imagery patterns had an effect on his self-confidence. More research should be carried out to find out how spontaneous imagery influences ice hockey players and also how these imagery experiences influence the players' performances.

P2.16

Thinking while walking through virtual worlds: Differences in dual-task performance between children, young, and older adults.

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Marjorie Woollacott (University of Oregon, USA)

Michael Schellenbach (MPI Human Development, Germany)

Ulman Lindenberger (MPI Human Development, Germany)

Age-comparative studies in which participants perform a motor and a cognitive task concurrently often report higher dual-task costs in old adults and children as compared to young adults, presumably because those age groups invest more cognitive resources into seemingly automatized motor tasks (e.g., Li, Lindenberger, Freund, & Baltes, 2001). The current study asked 9-year old children, young (20-30 years) and old adults (60-70 years) to walk on a treadmill while concurrently performing a working memory task, N-back. Participants walked as fast and accurately as possible through four different virtual worlds, either on a broad or a narrow track, and either on even ground or while balancing through a skyscraper setting. Dependent variables were walking speed and number of missteps on the narrow track. Older adults were assumed to prioritize their walking performance, whereas children were predicted to be more risk-taking in the motor domain. All age groups decreased their speed when cognitively challenged, and when walking on a narrow as compared to a broad track. Contrary to predictions, old adults walked even faster and committed more missteps in the skyscraper setting than on even ground. N-back performance decreased linearly in all age groups when walking in different virtual worlds. Older adults showed the most pronounced linear decrease with walking task difficulty, indicating that they focus their attention on the motor task when this task is most challenging and threatens their balance. However, this resource investment does not necessarily lead to superior levels of motor performance.



P2.17

The Sport Imagery Ability Questionnaire: A Valid Measure of Athlete Imagery Ability.

Sarah E Williams (University of Birmingham, UK)

Jennifer Cumming (University of Birmingham, UK).

The Sport Imagery Ability Questionnaire (SIAQ; Williams & Cumming, 2010) was developed to comprehensively assess athletes' proficiency in generating skill, strategy, goal, affect, and mastery images in relation to their sport. Initial studies demonstrate the questionnaire to be valid and reliable, but the SIAQ is still in its infancy and would benefit from further testing. The purpose of this paper was to examine concurrent validity by investigating the relationship between SIAQ imagery ability and six characteristics associated with greater imagery ability and more frequent imagery use. 286 athletes (male = 183, female = 103; Mage = 21.76 years, SD = 6.81) from 33 different sports completed the SIAQ and indicated on a 7-point scale the extent their imagery was regular, structured, deliberate, accurate, performed in real time, and modifiable. Bivariate correlations ($p < 0.05$) demonstrated that participants displaying higher SIAQ ease of imaging scores experience imagery that is more regular, structured, deliberately used, accurate of the actual situation, performed in real time, and easily modifiable. Further supporting the SIAQ's validity, athletes representing more elite levels reported greater SIAQ scores and the six imagery characteristics ($p < .05$). Finally, preferred visual imagery perspective did not influence imagery ability or any of the other imagery characteristics ($p > .05$) when comparing external visual imagers ($n = 80$), internal visual imagers ($n = 104$), and those who switch between perspectives ($n = 102$).

P2.18

The Difference between Visual and Kinesthetic Sport Imagery: An Electroencephalogram Study.

Tzu-Hui Kuo (National Taiwan Sport University, Taiwan)

Tai-Wei Hsiang (National Taiwan Sport University, Taiwan)

Shih-Hsien Yen (National Taiwan Sport University, Taiwan)

Chun-Wei Chiu (National Taiwan Sport University, Taiwan)

Yu-Kai Chang (National Taiwan Sport University, Taiwan)

The use of mental imagery plays an important role in motor skills learning. Imagery related to motor behavior includes types of visual motor imagery (VMI) and kinesthetic motor imagery (KMI), and these imageries may have different neural networks including the parietal and visual cortex. The cerebral activity investigation into motor imagery paradigms has been focused on mean power in EEG frequency bands including the alpha band (8-13 Hz) and the beta band (18-30 Hz). These bands are the most characteristic of the sensorimotor cortex during motor execution. However, most of the previous study applied simple movement and rarely examined the difference between VMI and KMI. The purpose of the present study was to compare the VMI and KMI in alpha and beta bands of the EEG activation. Six national soccer players (age=20.83 year, SD=4.2) were instructed by conducted "penalty shot in soccer movement" imagery while the EEG recorded activation in foot representation areas (FCz, C1, Cz, C2, CPz), visual areas (O1, O2), sensorimotor (C3, C4), and parietal (P3, P4). The results indicated that the VMI in O1 and O2 has a significant higher alpha activity than the KMI. In contrast, the KMI in C3, C4, P3 and P4 have significant higher beta activity than the VMI. However, both alpha and beta activity were not found to be different in the Cpz and Cz. These results support that the activation of the MIK and the MIV is established on different networks, including the motor, parietal and visual cortex. Further examination is warranted.

P2.19

Incorporating Idiosyncratic Measurement and Standardized Procedure: Linking of Affect and Performance.

Aave Hannus (University of Tartu, Estonia)

Robert Pääk (University of Tartu; University of Jyväskylä, Estonia)

The purpose of this study was to develop an economic, practical, and highly standardized assessment procedure for evaluation of performance-related affective states. Specifically, we aimed to standardize determination of pre-performance affective states and the individual affect-related performance zones (IAPZ).



In addition, to shed light on cognitive processes underlying the assessment of performance-related affective state, decision time required to report current affective state was measured as a function of individual affect-related performance zones.

Eight elite shotgun shooters participated in this study. Subjects estimated their pre-performance affective experience in terms of pleasantness and activation using a standardized electronic version of Affect Grid (Russell, Weiss, & Mendelsohn, *Journal of Personality and Social Psychology* 1989; 57: 493-502).

IZOF probabilistic method (Kamata, Tenenbaum, & Hanin, *Journal of Sport and Exercise Psychology* 2002; 13: 1-15) was used for data analysis.

The findings illustrate unique IAPZs and IZOFs for optimal performance on the dimensions of pleasantness and activation. Individual subjects demonstrated varying probabilistic zones of optimal functioning, within which they perform optimally with a certain likelihood. Importantly, results reveal that optimal pleasantness is experienced only in combination with optimal activation. Finally, decision time required to report current affective state is significantly lower prior to the performance characterized by high pleasantness and low activation compared with performance characterized by high pleasantness and high activation. Assessment of affective state is positively related to the perceived intensity of pleasantness. We propose a powerful expansion of the Affect Grid for assessment of affect-related performance zones.

P2.20

Transcultural validation of an extended model of the Theory of Planned Behavior in a physical activity context in adolescents.

Francis Ries (University of Seville, Spain)

José Manuel Sevillano (University of Seville, Spain)

The aim of this study was to develop an instrument to predict the intention and physical activity (PA) behavior using the Theory of Planned Behavior (TPB) as a framework and to test its transcultural validity in two specific cultures. We constructed a 39-item questionnaire (translated into Spanish, French and German by standardized parallel back-translation). After exploratory factorial analysis, "Attitude toward PA", "Perceived Physical Competence", "Parents' PA", "Perceived Parental Support", and "Perceived Resources" were hypothesized as the standard constructs of the TPB. Following a pilot study, the questionnaire was completed by 613 Spanish and 752 Luxembourgish high school students. Subsequently, a confirmatory factor analysis ratified the identical factorial structure for each sample (with 77% of item-factor correlations greater than .70). Internal consistency for each factor ranged between .735 and .944. Finally, in order to study the predictive power of the constructs on intention and actual PA behavior, we used structural equation models, showing acceptable fit index for both cultural contexts (Spain: RMSEA = 0.80; Luxembourg: RMSEA = 0.79). The analysis of structural invariance using multi-sample approach found that the predictive value of each of the factors corresponded to the hypothesized TPB constructs, but differed according to population. In light of the results, we conclude that the developed questionnaire is useful in predicting adolescents' intention and PA behavior and in validating the transcultural application of the extended TPB in the two different cultures.

P2.21

Confirmatory factor analysis of the Competitive State Anxiety Inventory in Mexican university athletes.

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Briseida Ramirez (Faculty of Sport Organization, UANL, Mexico)

Jose Tristan (Faculty of Sport Organization, UANL, Mexico)

Jose Perez (Faculty of Sport Organization, UANL, Mexico)

Oswaldo Ceballos (Faculty of Sport Organization, UANL, Mexico)

The aim of this study is to evaluate the factor structure of the Competitive State Anxiety Inventory - 2R (Cox, Martens & Russell, 2003) in its Spanish version (Andrade, Lois & Arce, 2007) using the confirmatory factor analysis on Mexican university athletes. Participated 923 athletes (Mage = 21.28, SD = 3.14513), 18 - 25 years old, 493 male and 423 female. The questionnaire consisted of 18 items, divided into three subscales: Cognitive Anxiety, Somatic Anxiety and Self-confidence. Interviews took place on a one-to-one basis at the competition venue. The results demonstrated an acceptable reliability in the three subscales ($\hat{\alpha} = .834$, CA; $\hat{\alpha} = .893$, SA; $\hat{\alpha} = .899$, Sc). The three factors explained the 63.21% of the total variance, dividing each of the items into theoretically devised factors; when carrying out the confirmatory factor analysis, the fit indices obtained are:

$\chi^2 = 654.02$, $df = 132$, $\chi^2/df = 4.96$, $CFI = .94$, $IFI = .94$, $NNFI = .92$, $RMSEA = .67$, confirming the factor structure of CSAI 2R in Mexican university athletes. Results are discussed in terms of their theoretical use and practice.



P2.22

Reliability and Validity of the Taiwan Version Motivation Scale for Physical Education in Elementary School.

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Chun-Wei Chiu (National Taiwan Sport University, Taiwan)
Tai-Wei Hsiang (National Taiwan Sport University, Taiwan)
Chien-Heng Chu (National Taiwan Sport University, Taiwan)
Yu-Kai Chang (National Taiwan Sport University, Taiwan)

Fostering motivation in physical education classes for elementary school students is important. Student with positive motivation at this developmental stage will not only impact their sport/exercise participation in the future, but also influence their personal lives. Although there are many useful questionnaires designed to monitor the motivation among younger and college-age population, there was no Taiwan version of a motivation scale for elementary school students. Therefore, the purpose of this study was to establish a Taiwan version of a reliable and valid motivational scale. 150 sixth grade students (male: 74, female: 76) were included in the present study. Three scales were modified to examine the various motivations, including: a) Perceived Autonomy Support Scale, PASS, adapted from Standage, Duda, and Ntoumanis (2006); b) Autonomy Scale, AS, adapted from Standage et al. (2003); and c) Physical Motivation Scale, PMS, adapted from Ntoumanis (2001). A Pearson product moment correlation, t-test, and exploratory factor analysis were computed for these three scales. The results indicated that: a) PASS with 6 items resulted in one factor referred to as teacher autonomy support. The Cronbach α is 0.76 with explained accounted variance of 46.6%; b) AS with five items resulted in two factors referred to as activity participation and their own sense of feeling. The Cronbach α is 0.72 with total explained accounted variance of 71.4%; c) PMS with 30 items resulted in five factors referred to as intrinsic motivation, identified regulation, introjected regulation, external regulation, and non-motivation. The Cronbach α ranged from 0.77-0.91 with a total explained and accounted for variance of 65.4%. Collectively, the study concludes that the Taiwan version of the PASS, AS and PMS have appropriate reliability and validity for assessing perceived autonomy support, autonomy support, and motivations for physical education among the elementary school students.

P2.23

Social Psychology in Sport in JCR journals: bibliometric analysis.

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A bibliometric analysis of the impact of Social Psychology in Sport including in Sport Psychology Journals on the Journal Citation Reports is carried out. Thus, it is possible to make an analysis of: 1) the existence of the Social Psychology in Sport as an area of knowledge and 2) the recurrent topics of research in Social Psychology in Sport.

Bibliometric analysis shows 1) a progressive interest in themes of the Social Psychology of Sport in the last decade, and 2) the recurrence of topics such as leadership, group cohesion, interpersonal relationships or fair play.

Taken as a starting point these results, for Social psychology in Sport is necessary begin to study or develop issues such as team beginnings, team development, morality and passion for sport, group influence processes, etc.



P2.24

Proposal for a Interbehavioral Model of Mental Workload in sport.

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While physical workload has been largely studied in sport (Cronin and Sleivert, 2005; Jobson et al., 2009), this does not apply to mental workload. However, it is clear the presence of psychological processes in sport as perceptual ones (Antúnez et al., 2010; Palmi, 2007; Savelsberg et al., 2002; Speicher et al., 2006), information processing (Antúnez et al., 2009; Iglesias et al., 2005; Mora et al., 2007; Moreno et al. 2003), decision-making (Chelladurai, 1991; López, 2009; Temprado & Alain, 1999), etc. All of these are indicated in literature as involved in the process of mental workload.

The initial approaches to the study of Mental Task Load in Sport (Bohorquez, 2010; Bohorquez, Garrido and Bueno, 2009) have shown the need for a theoretical model that permits analysis and evaluation the workload in the specific sports tasks. This theoretical model should allow an understanding of the relationship that exists between sports' task whose demands must be met, the athlete that has to cope with these demands through a specific information processing and the context that supports these interactions influencing them. Following these premises, we propose a theoretical model for mental workload based in Interbehavioral Model by Kantor (1978) and Lewin (1988).

P2.25

Psychometric properties of the Polish version of Task and Ego Orientation In Sport Questionnaire.

Maciej Tomczak (University School of Physical Education, Poland)

Integrated conception of motivation is provided by Self-determination theory and successfully applied into the sport area. Polish sport psychology is poorly loaded in worldwide and commonly used measures of specific types of motivation like intrinsic motivation, extrinsic motivation and amotivation, characterized by seven dimensions (to know, to accomplish, to experience stimulation, to external regulation, introjection, identification and amotivation). The SMS scale developed by L. Pelletier and others became the subject of Polish adaptation in order to provide the coaches and teachers the instrument to assess the specific motivational processes among athletes. Subjects (397 boys and 265 girls, mean age=19,2) were both competitive and recreational athletes of about 30 disciplines. The statistic procedures included reliability coefficients indication(alpha for seven subscales between 0,71 - for identification and 0,82 - for experience stimulation) and confirmatory factor analysis which didn't fully support the proposed seven-factor structure. However the dimensions analyzed separately appeared to have relatively good fit, especially for intrinsic motivation and amotivation. The obtained results also supported the continuum comprising three types of motivation postulated by Ryan and Deci. Moreover the research involved the indication of particular interaction effects for example: type of sport and level of participation for intrinsic motivation; level of participation, type of sport and gender for amotivation.

P2.26

Psychometric properties of the Polish version of Sport Motivation Scale.

Ma³gorzata Walczak (University School of Physical Education, Poland)

Integrated conception of motivation is provided by Self-determination theory and successfully applied into the sport area. Polish sport psychology is poorly loaded in worldwide and commonly used measures of specific types of motivation like intrinsic motivation, extrinsic motivation and amotivation, characterized by seven dimensions (to know, to accomplish, to experience stimulation, to external regulation, introjection, identification and amotivation). The SMS scale developed by L. Pelletier and others became the subject of Polish adaptation in order to provide the coaches and teachers the instrument to assess the specific motivational processes among athletes. Subjects (397 boys and 265 girls, mean age=19,2) were both competitive and recreational athletes of about 30 disciplines. The statistic procedures included reliability coefficients indication(alpha for seven subscales between 0,71 - for identification and 0,82 - for experience stimulation) and confirmatory factor analysis which didn't fully support the proposed seven-factor structure.



However the dimensions analyzed separately appeared to have relatively good fit, especially for intrinsic motivation and amotivation. The obtained results also supported the continuum comprising three types of motivation postulated by Ryan and Deci. Moreover the research involved the indication of particular interaction effects for example: type of sport and level of participation for intrinsic motivation; level of participation, type of sport and gender for amotivation.

P2.27

Review and Solidarity Test of Visual Form of BURNEL Mood questionnaire to its Writing Form in Sport Condition.

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The measurement of mood in researches and studies of physical education is very functional. Since mood has changeable, temporal and instable nature, even one more practice session leads to change it (Andrew M.Lane, Gregory P.White2004)1, therefore for need to tool to measurement of mood in various condition before practice, during practice, in time of rest and in the half's of play, after and before play is very necessary. Considering this, the measurement of Burnel in growing youths and adults is recognized and developed. This measurement scale deviated from mental condition half occurred (Mac Niber, Lorer, Deroplemen, 1992)(2). (BRUMS) involved 24 descriptive samples of mood and is the shortened form of POMS. Thus we can measure constantly the mood of athletes (Terry PC, Lane AM, Fogarty GF 2003)(3). However, it seems that considering of the special condition of individuals during and after the practicing there is a need to different questionnaires that it can analyses mood with facility and time consuming. Therefore in term of this, it seems that its visual form in sport condition is more practical. Thus this study aims to form the design of visual form of questionnaire (BRUMS) and the definition of fictional and solidarity is formed and performed.

In the new form of questionnaires like its old form 24 sample of mood is allocated 6 subset of main set which is contain: anger, think distribution, depression, seizure bored, and powerful that every 6 main set are involved 4 sample mood. But the difference of visual and writing form is in criteria spot that instead of (at all little and...) use color spectrum that with mild slop starts from the first hole and gradually the slop increase and finally in the end of hole reach to peak and finished. When the responses of hidden property in every subset is gathered, the criteria gained for subset between 0 to 16 whit presence tables is analyzed and description (Tree, Lane, Key Johan 1999, lane, Fogarty2003)(2). In this study men student participate of Physical education and sport science with the average of 33 ± 9 were participated. the tool of measurement of 2 questionnaires was writing and visual form of mood BURNEL. Our aim in this study is the survey and solidarity test between visual form of questionnaires and its writing form. Participant first completes the questionnaires during 2 to 3 minutes and then completes the writing form without previous information. The Statistical model to defining the verification of Alpha questionnaires of Cronbach and using form of the Pierson solidarity method for relationship (solidarity) between two questionnaires. The meaning level define with /05 Alpha. With the above result solidarity in the result of subset every 2 form of questionnaires (writing and visual) in the way that the angriness in the 2 form of questionnaires have the meaningful relationship. ($r=0.843$, $p?0.01$). also thought distribution (distress)($r=0.833$, $p?0.01$, depression($r=0.822$, $p?0.01$) fatigue($r=0.905$, $p?0.01$) tension ($r=0.825$, $p?0.01$)) have meaningful relation and above solidarity. Finally the feeling of improvement which is below in every 2 forms ($r=0.825$, $p?0.01$)

These two solidarity between all of question stated in two forms, and in the other word in hidden property. We propose for consuming in time and prevention of writing disturbance even for illiterate person, we can use from the image form of questionnaires of BURNEL.

Key words:

Brunel questionnaire, mood, visual form, athlete



P2.28

Personality and temperamental traits in young elite volleyball players.

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Personality and temperamental traits are considered important features of sport performance, as in many instances they may determine athletes' cognitive, behavioural, and affective reactions to events and situations. Investigating these relatively stable characteristics may provide useful information regarding the way athletes could be facilitated in their competitive career. The purpose of this study was to investigate attributes of personality and temperamental traits among young elite athletes attempting to describe a prospective profile. Predicting sport performance from personality characteristics is necessary and in order to achieve that, we investigated the personal characteristics of 40 young elite Polish volleyball players with mean age 16.42 (± 2.63) years, competing at national level and members of the national age group teams. However, the specific personality predictors found in earlier research vary dramatically from study to study, but knowing what are important personality characteristics that make the difference between excellence and mediocrity at an elite level is important. Participants were followed over a year and were asked to complete NEO Five-Factor Inventory (NEO-FFI) assessing five personality dimensions and the Formal Characteristic of Behaviour-Temperamental Questionnaire (FCB-TI) assessing six dimensions of temperamental traits. The results revealed that with regard to personality these elite young athletes scored high on the conscientiousness and extraversion and low on neuroticism, and with regard to temperament they scored high on briskness and sensory sensitivity and low on emotional reactivity. In terms of conscientiousness, athletes are described as dependable, careful, hardworking, punctual and persevering. When talking about extraversion they are considered to be sociable, fun-loving, and affectionate. Opposite of neuroticism is stability, which means these athletes are calmer, at ease, secure and hardy. Correlation analysis

P2.29

“Yes, we can!”: Towards a scale for collective efficacy observations in volleyball.

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Collective efficacy can be defined as a group's shared confidence that they will successfully achieve their goal. The aim of this study was to investigate which observable behaviours are perceived as indicators of collective efficacy beliefs in a volleyball context. In Study 1, volleyball coaches from the highest Belgian volleyball leagues ($n=33$) indicated the most important indicators of collective efficacy. This list was then adapted based on the literature and on feedback given by an expert focus group, resulting in a 40-item questionnaire. In Study 2, coaches and players from all levels of Belgian volleyball ($n=2365$) rated these indicators on their predictive power for the final game outcome. A principal component analysis revealed that the 40 indicators could be divided into eight reliable scales. Positive supportive communication (e.g., enthusiasm after making a point) was identified as the most important predictor of winning a game. Negative emotional reactions (e.g., discouraged body language) were the most important predictors of a defeat. These findings offer a starting point for the design of continuous measurements of collective efficacy through observation.



P2.30

The Assessment of Self and Collective Efficacy in Volleyball.

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Daniela Fadda (University of Rome "La Sapienza", Italy)

Laura Delitala (Department of Psychology, University of Cagliari, Italy).

Self-efficacy is defined as belief in one's capabilities to organize and execute the courses of actions required to produce given attainments. Perceived Collective efficacy is defined as a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments (Bandura, 1997). To evaluate self and collective efficacy in Italian volleyball players at different competitive levels we have constructed some non-hierarchical scales to assess specific aspects relevant for this sport, as emotions regulation, approach to training, technical/tactical capabilities and communication. A preliminary version was administered to different samples using two formats of rating scales: an 11-point and a 5-point Likert scale. Statistical analysis led us to choose the 5-point scale format (Guicciardi, Fadda and Delitala, 2010) and revealed a factorial structure composed of four dimensions. Based on the results of this study a new version of the questionnaires was created and it was named VEBS (volleyball efficacy beliefs scales). Efficacy scales were administered to an elite sample (n=133) along with other psychological tests (TEOSQ, GEQ, BIG FIVE) to verify the structural validity. The scales showed adequate values of skewness and kurtosis and values of Cronbach's alpha ranging from .69 to .95. Good fit indices emerged in CFA for self-efficacy ($\chi^2=74.4$, $df=59$, $CFI=.97$, $TLI=.97$, $RMSEA=.05$) confirming the four factors model. In conclusion, the structural validity of efficacy scales (of VEBS) has been confirmed, as well as their relationships with the task-orientation, cohesion and some personality traits (energy and openness).

P2.31

Sport Psychology in Brazil: history to be known.

Cristianne Almeida Carvalho (ABRAPESP - Assoc. Bras. de Psicologia do Esporte, Brazil)

This paper shows the doctorate thesis on the history of Sport Psychology in Brazil. It is delineated between the decades from 1930 to 1950. In Brazil it is considered an emerging practice, relies on the recognition and regulation of the Federal Council of Psychologists (CFP) since 2000, becoming among the eleven specialty practice psi. Today, it appears as some courses in the discipline of psychology in Brazil, with professionals working in different States. The first works appeared in the 1950s, before the rules of psychology as a profession, significant aspect of its history. At the end of 1970 is expanding this field with professionals in other sports. However, the production of scientific knowledge only gained strength in 2000, where the first newspaper was released in 2007 by ABRAPESP. These gaps raise questions about the emergence of this specialty. Sport Psychology in Brazil emerges from the Physical Education and Sports Medicine, focused on strategies to control the body. Psychology accompanied this movement is equipping and testing techniques to diagnose and intervene. Recent data from this study reveal that physical education in the decades from 1930 to 1950 included the psychology in their journals. How did this integration? In support of writers such as M. Foucault, Thomas Skidmore, Jaco-Vilela, K. Rubio and others are fundamental. The methodology is based on narrative record, relating to the documentary evidence, substantiated by bibliographic found. This paper presents a narrative about the history of Sport Psychology in Brazil.

P2.32

The Development of Sport Psychology in Egypt.

Mohamed Allawy (Helwan University, Egypt)

The Egyptian institutes for physical education were founded in 1937. Psychology was part of their curricular, but it dealt with subjects mainly from the field of educational psychology without direct connections or applications with sport activities. 1967 was the year of integrating sport psychology into the curricula of the Egyptian institutes for physical education.

In 1991 was the big revolution in sport psychology. Many sport education faculties established sport psychology departments which post graduate students can obtain M.A. and Ph.D in sport psychology.



The Egyptian Society of Sport Psychology (ESSP) was founded in 1974 with 17 members and 2010 increased to 67 members. The Majority involved in the field of teaching and research and some of them work as consultant with sport federations.

To date 65 books in Arabic languages with sport psychology topics have been published by the Egyptian sport psychologists. Sport psychology in Egypt has within recent years increased in intensity and its effects are felt across many Arab countries.

There is an expressed hope that in the near future there would be increased specialization in sport psychology consultation and a greater contact with coaches and top level athletes.

P2.33

Achievement Goals, Subjective Performance, and Motivational Climate as Predictors of Emotions in Team Sport Athletes.

Andrew Dewar (University of Birmingham, UK)
Maria Kavussanu (University of Birmingham, UK)
Christopher Ring (University of Birmingham, UK)

The present study examined whether the relationship between achievement goals and a range of emotions is mediated and/or moderated by subjective performance and the extent motivational climate predicted these emotions. Once team sport athletes (n = 356) had finished a competitive match they completed questionnaires measuring their goal involvement and perceptions of motivational climate created by the coach during the match, and subjective performance, happiness, pride, hope, dejection, and shame experienced after the match.

Moderated multiple regression analyses showed that task involvement positively predicted happiness, pride, and hope, and negatively predicted dejection and shame. These effects were partially mediated by subjective performance. Ego involvement positively predicted hope when athletes believed they performed well, and negatively predicted hope when athletes believed they performed poorly. Ego involvement also negatively predicted shame only when athletes believed they performed well. Thus, subjective performance moderated the relationship between ego involvement and hope and shame. Ego involvement did not predict any other emotions at either level of subjective performance. Task involving climate positively predicted happiness and hope, and ego involving climate negatively predicted hope and positively predicted dejection and shame.

Our findings suggest that the relationship between achievement goals and emotions is better understood if we examine subjective performance. Moreover, the climate created by the coach during the match, can influence the emotions athletes experience after a competitive sport match.

P2.34

Positive Emotions And Adventure Feelings Determining Motivation and Adherence to Extreme Sports.

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Giselle Helena Tavares (LEL-Laboratory of Leisure Research/DEF/IB/UNESP/RC, Brazil)
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Motivational factors and adherence to extreme sports show great complexity and have been poorly explored in the context of Sport Psychology, deserving the attention of this qualitative research, which aimed at reflecting on the intervention of positive emotions and feelings determining adventure motivation and adherence to extreme sports. A survey type research was applied for a sample of 10 important assiduous extreme sports athletes, aged between 22 and 35, with more than two years of engagement in extremes sport practices, which have voluntarily participated in this study developed in their blogs. Data were descriptively analyzed by Thematic Content Analysis Technique and indicate that, for 48% of the participants positive emotional experiences are decisive for adherence. Others 27% evidenced a great level of overcoming the fear as an extremely important characteristic linked to the choice for practicing these kinds of sports. For 15% the



presence of high level of resilience can enhance the participation and only 10% affirmed the high level of positive emotions during practices as factors of adherence. The results corroborate some aspects of the literature reviewed when the authors evidenced some traces of personality as motivators factors of adherence to extreme sports. Nevertheless, some other data such as positive emotions, self-confidence and resilience were not the same traces other studies had evidenced, deserving new approaches for understanding practitioners' stand point.

P2.35

Effects of Attentional Bias Training on Cognitive Processes of Emotional Information in Archers: An Event-related Potential Study.

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Chung-Ju Huang (Taipei Physical Education College, Taiwan)
Tsung-Min Hung (National Taiwan Normal University, Taiwan)

Previous studies have indicated that high trait-anxious individuals who were trained to avoid threatening words developed different patterns of attentional bias and their anxiety levels could be reduced. However, the change between implicit processes before and after attentional bias training remains unclear. The main purpose of this study was thus to explore the effect of attentional bias training on cognitive processes emotional information by means of event-related potential (ERP) indices. Eighteen skilled archers (Mean age= 20.00 years, SD=1.24; sport experience=6.47 years, SD=1.27) in Taiwan were trained with the dot-probe task (MacLeod et al., 2002) for six weeks. One group of participants was exposed to a training condition designed to induce an attentional bias away from threatening words, and the other group was administered sham attentional bias training. N1, P1, N2 of ERP components at Fz/Cz/Pz/Oz electrodes which have been implied indices of attentional process after the onset of cues and probes, were derived. The ERP data were subjected to 4 (electrode) × 2 (group) × 2 (word property) mixed design ANOVAs. The results showed that the experimental group displayed smaller P1 amplitude at the Cz electrode when the probe replaced positive words relative to negative words, but there was an opposite phenomenon for the control group. Additionally, the experimental group also displayed larger N2 amplitude at the Fz and Cz electrodes when the probes substituted positive words for negative words. It can be concluded that the different emotional property information indices varied cognitive processes for archers after attentional bias training.

P2.36

Prevention of burnout among elite sport coaches: The mediating role of positive emotions and satisfaction with coaching.

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Lemyre, Pierre Nicolas (The Norwegian School of Sport Sciences, Norway)
Donahue, Eric (Université du Québec à Montréal, Canada)
Tveten, Martin (The Norwegian School of Sport Sciences, Norway)
Ronglan, Lars Tore (The Norwegian School of Sport Sciences, Norway)

There is a notable absence of studies of burnout among coaches, both for the population of non-North-American-based samples and for elite coaches. Especially, studies to prevent burnout are called for (Goodger, Gorely, Lavalee & Harwood, 2007). Shaufeli and Bakker have introduced engagement as an antipode to burnout (2003), and this study aims to look at both emotional exhaustion and vitality as markers of well-being. The broaden-and-build theory of positive emotions provides a framework that describes how positive emotions both broadens individual's momentary thought-action repertoire which in turn build's individual enduring personal resources (Fredrickson, 2001; 2004). In this study, two mediating models were tested: 1) Positive emotions and high degree of satisfaction with coaching as mediators in the relationship between interpersonal relationships and vitality; 2) Negative emotions and low degree of satisfaction with coaching as mediators in the relationship between interpersonal relationships and exhaustion. Ninety five elite coaches in handball and soccer participated in the study. They competed at the highest national level in their sports, spending on average 23.6 hours a week coaching and had averaged 16 years of experience. Data was collected using self-report forms. Overall, emotional exhaustion in this sample was found to be average. Pearson's correlation and Sobels test supported both mediating models. The results of this study will be discussed in light of Frederickson's theory of broaden and build, and enhancement of engagement as an option to prevent burnout for elite coaches.



P2.37

Sense of humor and Performance Strategies of Egyptian athletes.

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The purpose of this study was to Investigate the statistical relationships between sense of humor, and Performance Strategies, and through theoretical and empirical discussion, Surveys were administered to 92 participants from a cross-section of male and female athletes of several sports, aged 17 to 23 years old (M=19.7; SD=4.5). Participants completed the Scale (MSHS) to measure Multidimensional Sense of Humor, while using (TBS) -questionnaires to measure Performance Strategies. Results were tabulated and descriptive statistics generated for the purpose of exploring linkages between senses of humor and Performance Strategies.

Background:

The notion that a sense of humor is beneficial for mental health has been popularized by personality theorists, and researchers for decades. It can be conceptualized as a coping strategy to cope with stress, Researchers have reported that over 50 percent of consultations among athletes at Olympic Games or sport events were related to stress or anxiety problems (Murphy, 1988; Jones 2000). The ability to cope with anxiety to increase performance is an integral part of sports (Orlick & Partington, 1988; Jones, 2000; Jarvis, 2002). Several researchers have documented the fact that a sense of humor moderates, or reduces, negative or unpleasant affect. For example, Yovetick, Dale, and Hudak (1990) found that individuals scoring higher on sense of humor report less anxiety than individuals scoring lower on sense of humor even when placed in an anxious situation. Newman and Stone (1996) reported that humor leads to decreased self-reported tension and decreased physiological activity associated with stress. Labott and Martin (1987) indicated that coping by using a sense of humor buffers the effects of negative events on mood states. Brown and Keegan (1999) found that humor also relieved boredom. Hence, possessing a sense of humor tends to moderate stress and anxiety and allows athletes to lead with a high level during training and competition.

P2.38

Effects of Priming Empathy on Emotion and Aggression.

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Christopher Ring (University of Birmingham, UK)

Aggression has been linked with empathy and emotions (e.g., anger, guilt) in cross-sectional studies. To examine the causal role of empathy in this context we investigated the effects of experimentally priming empathy on emotional reactions to aggressive acts and the likelihood of aggression in 71 team sport players. We also examined whether guilt mediates the empathy–aggression relationship. We determined whether empathy influenced participants' valence and arousal ratings when viewing images of players committing deliberate fouls (image viewing task), their likelihood of aggressing and the extent they would feel guilt if they were to deliberately foul and risk injuring an opponent (scenario task). We used perspective taking instructions to manipulate empathy: participants in the high empathy group were told to take the victim's perspective and imagine how they feel whereas participants in the low empathy group were told to remain objective and detached. As expected, empathy led participants to experience stronger negative emotional reactions to images of aggressive acts and reported lower likelihood to aggress. We also found that guilt mediated the effects of empathy on participant's likelihood to aggress, albeit only in men. Our findings support the inhibitory effects of empathy on aggressive behaviour and highlight the potential regulatory role of guilt.

P2.39

Relationship among Recovery-Stress and Emotional States in Spanish Athletes.

Sara Márquez (University of León, Spain)

The avoidance of overtraining and the achievement of optimal performance can only be realized when athletes are able to recover and optimally balance training stress and subsequent recovery. Psychological instrument have the advantage on biomarkers of their rapid availability. The Profile of Mood Status (POMS) provides a self-assessment for mood and is frequently used in psychological monitoring of training/overtraining. While



POMS mainly focus on the stress component, the more recently developed Recovery-Stress Questionnaire for Athlete (RESTQ-Sport) assess the multidimensional nature of stress and recovery and has been shown to be related to changes in physical performance. This study was aimed to investigate relationship among the different scales of the RESTQ-Sport and the POMS in Spanish athletes. Participants were 141 athletes, 63.1% males and 36.9% females, aged 18 to 24 years. The POMS scales Tension, Depression, Anger, Fatigue and Confusion correlated positively with the stress scales (Sport Non-Specific Stress, Sport Specific Stress and Total Stress) and negatively with the recovery scales and factors (Sport Non-Specific Recovery, Sport Specific Recovery and Total Recovery) of the RESTQ-Sport; while the POMS Vigour scale correlated positively with the recovery scales and factors and negatively with the stress scales and factors of the RESTQ-Sport. Data obtained confirm that the Spanish version of the RESTQ-Sport could be a useful instrument to detect early stages of overtraining and to optimize individual training programs in Spanish athletes.

P2.40

Determinants of Well- and Ill-Being in Elite soccer players: A Test of self-determination Theory.

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Philippe Sarrazin (University Joseph Fourier laboratoire SENS, France)

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Introduction:

Although sport participation has the potential to positively impact psychological and emotional welfare, some works showed that it could be associated with decreased motivation, burnout or ill-being (e.g., Lemyre et al., 2006). Grounded in the self-determination theory framework (Deci & Ryan, 2002) this study examined the interplay among perceptions of coaches' climate, basic need satisfaction, self-determined motivation and indices of elite soccer players' well- and ill-being over a 3-month period.

Methodology:

132 boys (M age = 16.22 years) involved in an elite soccer program completed questionnaires measuring indices of psychological well- and ill-being (i.e., vitality, burnout, relative affect) and the SDT-based variables. Measures were obtained on three occasions across one competitive season.

Results:

Multilevel growth curve analyses revealed that changes in relevant independent variables (e.g., climate, basic needs) predicted within- person changes and between-person mean differences in dependent variables over the three-month period.

Conclusion:

The present findings support the predictive value of the factors identified by the SDT theory on the level and the building dynamic of psychological functioning of athletes.

P2.41

Ways of Confrontation in the Pre-Competition and Competition: a Study With Brazilian Soccer Players.

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Adriana Barbosa Santos (Departamento de Ciências de Computação e Estatística - IBILCE, Brazil)

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Vinicius Barroso Hirota (Universidade Presbiteriana Mackenzie, UniABC, Brazil)

The ways of confrontation have a significant impact on the soccer practice. This study aimed to identify and compare scores of confrontation strategies at different stages in a competitive professional soccer players and amateurs. The prospective study conducted in Sao Paulo, Brazil, involved three teams of professional players who compete in Sao Paulo state championship and amateur tournament Brazilian's participants' under-18 category. 73 soccer players were male, with 32 professionals with an average age of 22 ± 4.14 years and 41



amateurs with mean age 17 ± 0.94 years responded individually to the Ways of Coping Scale (WOCS). The results provide evidence that there is no statistically significant difference between amateurs and professionals as to the estimated mean scores for the factors of confrontation in the pre-race ($P > 0.05$). Into the race, the category does not influence the factors focused on the problem ($P = 0.203$), emotion ($P = 0.519$) and religious practices ($P = 0.381$), however, there is evidence that the focus on social support is the way of coping with the most influence, with higher one for amateurs when compared to professionals ($P = 0.037$). Specifically for professionals it was observed that the ways of confrontation that focus on the problem, emotion and religious practices are prevalent. For both amateurs and professionals, the difference in average scores between phases for all factors was not statistically significant ($P > 0.05$). It follows that the category of the player does not interfere significantly in the way of confrontation adopted by players in the pre-competition and competition.

P2.42

Courage of soccer players according to their performance.

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Turhan Toros (Youth Sport Provincial Directorate, Turkey)

Theory and practice of sport in general and sport psychology in particular, have much to say about stress, anxiety and fear and they have little to say about courage in sport from the perspective of positive sport psychology. Purpose of the research was to analyze courage of soccer players (1. Determination, 2. Self-Confidence/Mastery, 3. Assertiveness, 4. Venturesome/Coping with Fear, and 5. Altruistic/Sacrifice Behavior measured by Sport Courage Scale-31/SCS-31) according to their selected performance variables (amateur-professional, captain-not captain, substitute-not substitute, selected national-not selected national). Recently developed "SCS-31" and "Information Form" for related independent variables were administered to 540 amateur and professional soccer players aged 13 to 23 with an average 4.76 years official soccer license. Data was analyzed by one way ANOVA, Scheffe Test and t statistics. Results indicated that: 1) Comparisons of Amateur-Professional ($p < .05$) and Substitute-Nonsubstitute ($p < .04$), soccer players revealed meaningful differences related to Self-Confidence/Mastery subscale of SCS-31. Professionals from Amateurs and Nonsubstitutes from Substitutes have higher Self-Confidence/Mastery scores in soccer. 2) Comparisons of Substitute and Nonsubstitute soccer players showed the meaningful differences ($p < .01$), related to Determination subscale of SCS-31. Nonsubstitute players have higher Determination scores than Substitute players in soccer. 3) Comparisons of Substitute-Nonsubstitute and Captain-Noncaptain soccer players yielded meaningful differences ($p < .01$), related to Assertiveness subscale of SCS-31. Nonsubstitutes from Substitutes and Captains from Noncaptains have higher Assertiveness scores in soccer. 4) Comparisons of Substitute and Nonsubstitute soccer players revealed meaningful differences ($p < .01$), related to scores of Total SCS-31. Nonsubstitute players have higher Total SCS-31 scores than Substitute players. Multiple comparisons of mean differences between SCS-31 total scores and level of play (professionals, 18 and above amateurs, Under 17, Under 16, Under 15, Under 14 and Under 13) also revealed meaningful differences related to Determination, Venturesome and TOTAL scores (Determination; $p < .005$, Venturesome; $p < .01$, Total; $p < .04$). Results showed that: 1) Players 18 and over have higher Determination scores than players Under 16 and Under 13. 2) Players Under 17 have higher Venturesome scores than players Under 13. 3) Players Under 15 have higher Venturesome scores than players Under 13. 4) Players 18 and over have higher SCS-31 TOTAL scores than players Under 16 and Under 13. More research is needed for more conclusive results related to courage and performance using different performance measures in soccer.

Keywords: Courage, Soccer, Performance, Self-Confidence, Mental Toughness, Assertiveness, Coping, Competitiveness, Achievement Motivation, Sacrifice Behavior

P2.43

Courage of soccer players and their playing positions.

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Turhan Toros (Youth Sport Provincial Directorate, Turkey)

Sport psychology can help the field of general psychology move into a millennium of positive psychology to facilitate the functioning and performance enhancement in sport (Gould, 2002). However, theory and practice of sport in general and sport psychology in particular, have much to say about stress, anxiety and fear and they



have little to say about courage in sport. Research questions, conceptual models and psychometrically sound scales related to courage in sport have just recently been started. The purpose of the study was to research courage of soccer players (Determination, self-confidence/Mastery, assertiveness, venturesome/coping with fear, and altruistic/sacrificial behavior) according to their playing positions (1-Amateur Goal Keeper-AGK, 2-Professional Goal Keeper-PGK, 3-Amateur Stopper-AST, 4-Professional Stopper-PST, 5-Amateur Full Backs-AFB, 6-Professional Full Backs-PFB, 7-Amateur Midfield-AMF, 8-Professional Midfield-PMF, 9-Amateur Wingers-AWG, 10-Professional Wingers-PWG, 11-Amateur Center Forward-ACF and 12-Professional Center Forward-PCF). Recently developed "Sport Courage Scale-31" and "Information Form" were administered to 542 amateur and professional male soccer players (amateur=366, professional=174) aged 13-23 (Mean Age=16.35, SD=2.46) with a mean of 4.70 years licensed playing experience (SD=3.00). Data was analyzed by Kruskal Wallis and Mann Whitney Tests including Normality Test and Effect Size. Results indicated significant differences between Sport Courage Scale-31 points of amateur and professional soccer players and their playing positions related to Self-Confidence/Mastery [$+2$ (11)=26.68, $p<0.005$] and total scores [$+2$ (11) = 23.12, $p<0.017$], and no significant differences as regard with Determination, Assertiveness, Venturesome/Coping with Fear and Altruistic/Sacrificial Behavior ($p>0.05$). Comparative analysis using Mann Whitney Test yielded following results: 1) Mean Rank Analyses showed that AST, PST, AFB, AMF, AWG, ACF and PCF players have higher Self-Confidence points than AGK players. 2) Mean Rank Analyses showed that PST and PCF players have higher Total points than AGK players. 3) Mean Rank Analyses showed that AST, PST, AFB, PFB and PCF have higher total points than PGK players. 4) Mean Rank Analyses showed that PST players have higher Total points than PFB, PMF and PWG. 5) Mean Rank Analyses showed that PCF players have higher Total points than PFB, PMF and PWG. 6) Mean Rank Analyses showed that AMF players have higher Total points than PMF. More research is needed for more conclusive results related Courage and Playing Positions using different lining ups and performance measures in Soccer.

Keywords:

Courage, Soccer, Playing Positions, Self-Confidence, Mastery, Determination, Assertiveness, Venturesome, Coping with Fear, Altruistic Behavior, Sacrifice Behavior.

P2.44

Parental support as a predictor to success in adolescent male football.

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Andreas Ivarsson (Halmstad University, Sweden)

Urban Johnson (Halmstad University, Sweden)

Henric Lilja (Halmstad University, Sweden)

Kjetil Hagen (Halmstad University, Sweden)

The aim of the study was to examine if parental support could predict elite academy participation in an adolescent football population. The participants were 767 adolescent male football players, where 443 represented an academy team and 324 represented lower ranked teams, in age between 11 and 18. The participants were classified into three groups; a) children (11-12 years), b) youth (13-15 years) and c) junior (16-18 years). The questionnaire used was the Swedish health survey developed by the Swedish Health Institute with a number of football specific items added. Parental support was measured with six items that all measured emotional support (for example if the player experience that his parents understand, listen to, and treat him fair).

One way ANOVA showed that academy players reported significant higher level of parental support than the non-academy players in children ($F(1, 196) = 7,071, p = 0,008$) and junior ages ($F(1, 194) = 10,830, p = 0,001$). A logistic regression showed that parental support predicted approximately 68% of the players belonging accurate both in the children- (68,2%) and junior (67,9%) sample.

The result supports previous findings showing that adaptive coping resources, such as social support seeking, could predict athletic success (Yperen, 2009).

One recommendation for football clubs with youth academies is to involve parents in the social support network in order to give the players more adaptive coping resources. Further, educating parents about demands and career transitions that the players are exposed to in an elite academy could be beneficial in a developmental perspective.



P2.45

Study on three types of concurrent (strength – endurance), strength and endurance training load changes on the performance and mood indices in the male football players.

Pejman Taghibeikzadeh Badr (Azad University, Iran)

Evaluation of performance indices such as, aerobic and anaerobic capacities and the over strength can provide a proper imagination about the training program to the instructors and researchers of sport sciences.

The aim of the present study was to investigate the effect of training load changes on the mood and performance indices in the male athletes. The society under study were all male athletes participating the first football league matches of Tehran province clubs in 2009 – 2010 . In this study, 30 male football players mean age of 25 ± 2.21 years, height 180.27 ± 2.58 cm and weight 81.13 ± 5.49 kg with 5 years football playing were enrolled. The study subjects were divided in three concurrent (10 persons), strength (10 persons) and endurance (10 persons) training by simple random method.

The 1600 meters running test was used for evaluation of aerobic capacity (the excess oxygen uptake), The repeat excess IRM test was used for evaluation of over strength, RAST test was used for evaluation of anaerobic capacity and fatigue indices. For evaluation of mood profile condition the 24- question Mood Profile Condition Questionnaire (BRUMS) was used. Data showed that 5 weeks concurrent training had significant effect on the aerobic and anaerobic capacities, the over strength and the mood of male football players ($P < 0.05$).

Also 5 weeks endurance training had insignificant effect on the over strength in male football players, but with significant effect on the aerobic and anaerobic capacities and on all of mood conditions ($p < 0.05$). Results showed that the concurrent trainings have more effect on the performance and mood indices compared to the endurance or strength training.

Key words:

Concurrent training, performance indices, mood.

P2.46

Panic disorder in boxing: positive outcome of treatment in specific sport setting by Brief Strategic Therapy.

Cecilia Fantappiè (Centro di Terapia Strategica, Arezzo, Italy)

“I bear the wounds of all my evaded battles” F. Pessoa

Case:

Boxer, 24 year-old, esteemed club fighter, well motivated, with increasing level of anxiety, severe anxiety crisis, worries about knockout, a series of physiological symptoms up to being unable to fight safely and blockage of performance.

The situation is dangerous in a combat sport and the problem increases.

Assumptions:

Not compromised motivational and cognitive processes are not useful to support emotional processes in sport performance. It's not possible to control voluntarily the “fear” because it's a primary emotion

Method:

According to Brief Strategic Therapy approach, paradoxically the psychological problem is kept alive/worsened by the subject's own efforts to change and the efforts of other people (e.g. the coach) in the complex cybernetic network of retroactions. Precisely because the athlete attempts to maintain absolute control he loses control.

The case was treated by the rigorous advanced model for phobic disorders of “Centro di Terapia Strategica di Arezzo” Italy.

This model is based on non-ordinary logical principles (“paradox”, “belief”) and employs procedures of strategic intervention focused on the vicious circle of the persistence of a problem interrupting the

attempted dysfunctional solution by prescriptions particular form of communication to overcome resistance and activate change

The language and therapeutic relationship are adapted for the athlete



Outcome:

Solution of the problem in 7 sessions (follow-up 6 and 12 months), problem unblocked in the 2nd session.

Conclusion:

“Implementation of protocol is to transform something to which we are subjected into something we manage”

P2.47

The effect of competitive level in sport competition Role Ambiguity and State Anxiety.

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Carla Borrego (Sport Sciences School of Rio Maior, ESDRM, Portugal)

Two hundred and eighty six male soccer players at youth and junior level, participate in the study design to examine the relationship between role ambiguity and state anxiety. Based on the conceptual model present by Beauchamp, Bray, Eys and Carron (2002), role ambiguity in sport was operationalized as a multidimensional construct (i.e., scope of responsibilities, role behaviors, and role evaluation and role consequences) manifested in each of two contexts: offense and defense. We found significant differences in almost forms of offensive role ambiguity (except scope of the responsibilities) and in defensive role consequences. For the manifestations of state anxiety, they are not influenced by the level factor seen there is no significant difference between them.

P2.48

Anxiety and ironic effects in aiming at a far target.

Frank C. Bakker (Faculty of HMS / Res. Inst MOVE - VU University, Netherlands)

Olaf Binsch (TNO Soesterberg, Netherlands)

In far aiming the negative intention not to miss may ironically increase the tendency to do precisely that. Although cognitive constraints enhance the occurrence of ironic effects in the perceptual-motor domain the role of anxiety in inducing such effects has rarely been investigated while anxiety is known to play a crucial role in performance decrements in sports (e.g., choking under pressure) and to place a large burden on cognitive resources. Therefore, in the current study we investigated the combined effects of anxiety and negative instructions (to induce ironic effects) on perceptual-motor performance. Participants threw darts under one neutral instruction to hit bulls-eye and one negatively worded instruction not to throw worse than a pre-determined average while positioned either high or low on a climbing wall (i.e., with and without anxiety). Only the combination of high anxiety and the negative instruction led to ironic effects, which is in line with the theory of ironic processes as well as recent theories on choking under pressure.

P2.49

Comparison of Sport Competitive Anxiety Levels of Saudi Arabian National Team Athletes With and Without Disabilities in Competitions.

Hassan Halawani (University of Arkansas, USA)

Anxiety in sport is complex and can lead to a number of undesirable consequences such as burnout, performance difficulties, interpersonal problems, and injury. The purpose of this study was to compare whether significant differences existed in the levels of somatic anxiety, worry, and concentration disruption between individuals of the Saudi Arabian national team with and without disabilities in competitions. In addition, differences in somatic anxiety, worry, and concentration disruption were examined between athletes in an individual or team sport. The Sport Anxiety Scale (SAS-2, Smith et. al, 2006) was employed to measure the subscales of somatic anxiety, worry, and consternation disruption.

Participants were 120 Saudi Arabian national team athletes with and without disabilities who participated in



competitions during the 2010 competitive season. Sixty Saudi Arabian national team athletes with disabilities from four different sports (track and field, table tennis, wheelchair basketball and volleyball) were surveyed. Another 60 Saudi Arabian national team athletes without disabilities who competed in the same four sports were also surveyed. Athletes' ages ranged from 18-35 years. Furthermore, athletes varied in their level of competitive experience.

Results of the multivariate analysis indicated that there were no statistically significant differences between athletes with and without disabilities or between individual and team sport participants in their levels of somatic anxiety, worry, and concentration disruption.

P2.50

Influence of anxiety and mood in sport performance of the spanish team Boccia in the Beijing 2008 Olympic Games.

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Roberto Ruiz (Universidad Autónoma de Madrid, Spain)

Oswaldo Rivera (Universidad Politécnica de Madrid, Spain)

Constanza Pujals (Universidad Autónoma de Madrid, Spain)

In this paper, we will focus on the influence of state-anxiety and trait-anxiety on sport performance, and the degree of fluctuation or consistency in the Boccia players' mood in two tests at the 2008 Paralympics Games held in Beijing. The study sample were 8 sportspeople a high level of physical dependence as described in the 9th Edition of the CPISRA Classification Manual. The results of this study, gathered by means of POMS and STAI, show statically significant relationships between the level of state-anxiety and tension ($p < 0.05$) before starting the individual competition. Prior to the team/partner competition, the most significant show a direct relationship between this level and scale depression ($p < 0.05$) and inverse relationship between anxiety-state and the scale of force ($p < 0.01$).

P2.51

Psycho-physiological stress responses in Teamgym training and competition.

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Laura Capranica (University of Rome Foro Italico, Italy)

Maria Francesca Piacentini (University of Rome Foro Italico, Italy)

Introduction:

Teamgym is a popular form of Gymnastics including tumbling (Tu), trampette (Tr) and floor exercises (F) and, like gymnastics, is characterized by intensive practise demanding (Mellalieu et al., 2009). The aim of the present study was to investigate the stress-related changes of Teamgym athletes during training and competition, considering both physiological (i.e. salivary cortisol and alpha-amylase) and psychological (i.e. anxiety) components of stress.

Methods:

Eleven (5 males and 6 females) Italian Teamgym athletes (age: 21-28 yrs) were administered the State-Trait Anxiety Inventory (Spielberger, 1983) before training and competition. Salivary alpha-amylase and cortisol were measured 15 minutes before (-15) the beginning of exercise, after each apparatus, and during the recovery phase (+10min and +30min). Friedman's test ANOVA was used to verify psycho-physiological differences between training and competition ($p < 0.05$).

Results:

Competition elicited higher values of anxiety (50.67 ± 9 pts) compared to training (43.21 ± 5 pts) ($p < 0.05$). While alpha-amylase showed significantly higher values during competition (-15= 99.19 ± 11.6 nm/l; Tu= 123.10 ± 30.42 nm/l; Tr= 131.85 ± 14.24 nm/l; F= 142.21 ± 39.5 nm/l; +10= 98.54 ± 20.2 nm/l; +30= 83.61 ± 19.85 nm/l) compared to training (-15= 53.4 ± 12.96 nm/l; Tu= 76.89 ± 14.81 nm/l; Tr= 76.89 ± 13.36 nm/l; F= 125.02 ± 39.98 nm/l; +10= 80.05 ± 21.22 nm/l; +30= 65.86 ± 9.37 nm/l), cortisol did not differ between training and competition and showed no exercise induced increase. Furthermore, anxiety and alpha-amylase were positively correlated only during competition ($r = 0.80$; $p = 0.029$); no correlations were found between cortisol and anxiety both during



training than competition.

Discussion/Conclusion:

More than training competition is a threatening situation, which stimulates higher psycho-physiological responses in athletes (Filaire et al., 2004; Bouhrel et al., 2006). Furthermore, findings suggest that alpha-amylase can represent a more useful marker than cortisol for understanding the psycho-physiological stress responses in Teamgym athletes.

P2.52

Competitive State Anxiety Among Table Tennis Players.

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The aim of the present study was to evaluate the levels of intensity and direction of the competitive state anxiety in table tennis players prior to a competition, and to investigate any possible differences in relation to their league and to their athletic experience. The sample of the study consisted of 62 table tennis players, members of A1 (n=25) and A2 (n=32) league, which participated in the Greek Table Tennis Championships, finals held in Athens 2010. For the data collection, the model used was the Competitive State Anxiety Inventory-II (CSAI-II, Martens, Burton, Vealey, Bump & Smith, 1983; Martens et al., 1990; Jones & Swain, 1992), which was modified for the Greek population by Stavrou, Zervas, Kakkos and Phychoudaki (1998). All players filled in the questionnaire 30 minutes before the competition. The 'Cronbach a' internal cohesion indicator of the questionnaire was satisfactory. The statistical analyses showed significant differences in cognitive anxiety, self-confidence and its direction between the players of A1 and A2 league. In relation to years of experience, the results revealed that players with more than ten years of experience showed higher self-confidence with facilitating direction. In conclusion, players of A1 league and players with more than ten years of experience display less cognitive anxiety, higher self-confidence, with positive effects on their performance. The findings of this study support the existing theories about anxiety, yet further investigation is needed since table tennis players have to acquire complex movement abilities, speed of perception, accuracy, speed of performance and a high level of concentration.

P2.53

Complex physical and mental rehabilitation and rebuilt of the movement pattern in case of an olympic diver.

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I. Moldvay (Hospital of Sport Medicine, Hungary)
B. Ligar (KNZB, Netherlands)
P.Varga (National Center for Spinal Disorders, Hungary)
N. Gyomber (Semmelweis University, Hungary)
J. van Duursen (KNZB, Netherlands)

The hungarian diver got into the final in the Olympic Games in Beijing. Due to vertebral problems, she has been operated with spinalis hernia. Complex relearning processes were needed for the backbone with altered statics and biomechanics, as well as different proprioceptive controlling.

The first task was to make the whole movement extension observable and automatic. This basically new sense of the muscles and movement control had to be built instead of the old, accomplished movement patterns. This newly developed body awareness resulted visibly more ergonomic, aesthetically harmonic movement implementing. After the development of the necessary muscle strength and adequate flexibility, the second part of the treatment plan was to plan and teach the training schedule and activity. By the restart of the training activity the modification of the old body patterns became definite. The applied mechanisms of the mental training had to be replaced with new ones. Through the rehabilitation process KIP (Katathym Imaginative Psychotherapy) was applied in the aspect of the mental rehabilitation. The deep psychological problems associated with the performance became disclosable and immediately treatable.

After 8 months termination the observed changes were built into the new mental training. The rotations had to be replanned consciously.



Beside the physical rehabilitation, in cooperation with the body awareness had to be mentally rehabilitated and fitted with a new mental training process. The psychotherapeutic method was likely to evolve the need for the art therapy. In the European Championship in Budapest in 2010 she won bronze medal.

P2.54

Perceptual-motor skills - prerequisites of generic learning skills.

Arja Sääkslahti (University of Jyväskylä, Dept. of Sport Sciences, Finland)

Ayres (2005) states the importance of perceptual-motor skills for children's generic learning skills. In this study generic learning skills will be understood as skills appropriate in learning to read and write (such as the appropriate coordination and motor control of the body). The purpose of this study was to analyze the perceptual-motor (PM) skills of 3- to 6-year-old children and to discuss what kind of prerequisites these are for children's generic learning skills. PM skills were measured by the APM- test battery developed by Numminen (1995). The test battery included PM skills items such as recognizing oneself, locating body parts, differentiating the sides of the body, crossing the midline of the body, integrating the action and concept, and imitating movements of the body parts. Thirty (14 boys and 16 girls) 3- to 6-year-old preschool children participated in this study. The measurement of PM skills took approximately 10 minutes with each child. Although the data analysis is still ongoing, percentages (%) of successfully performed PM skills will be presented. Children's performances in each measured PM item will be analysed and conclusions drawn regarding the kind of prerequisites that different performances have on children's generic learning skills. The results will be discussed with a view to clarifying what the main targets of early education are in terms of supporting children's readiness for school, especially with regard to physical education lessons.

P2.55

The retention of content-related changes to motor-skill performance following fluency and skill-focused priming.

Danielle Adams (Brunel University, UK)

Content-related changes to motor performance have been demonstrated following fluency and skill-focus priming (Adams et al., 2009; Ashford & Jackson, 2010). Owing to the varying lengths of sport competition and in light of equivocal findings on the retention period of primed behaviours (24 hours e.g., Merikle & Daneman, 1998; 4-5 minutes e.g., Bargh et al., 2001), the present study examined retention of the content-related changes highlighted above. Twenty-four university level soccer players were randomly assigned to a control or experimental prime (skill-focus, fluency) group. Participants completed a soccer dribbling task immediately following exposure to a prime and at 30 minutes and one hour post exposure. Task completion time, ball displacement, and probe reaction time (P-RT) served as dependent variables; the latter was used to assess the relative automaticity of skill execution as a function of the prime. Repeated measures ANOVAs revealed a non-significant effect for completion time and displacement but a significant main effect for P-RT ($p < .05$) in the experimental group. Analysis of simple effects for P-RT revealed non-significant differences between baseline and 30 minutes, and 30 minutes and 1 hour suggesting gradual attenuation of the prime. This study provides initial support for the efficacy of priming as a method for promoting fluent motor skill execution for up to one hour after preliminary exposure. Further research addressing the durability of primed effects and the underlying processes as well as evaluating the efficacy in alleviating paradoxical performance under pressure is warranted.

P2.56

Experts and Novices Volleyball Athletes Difference in Anticipation Skill.

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Afrodite Lola (Aristotle University of Thessaloniki, Greece)

George Tzetzis (Aristotle University of Thessaloniki, Greece)

The aim of this study was to compare the anticipation ability on the volleyball service among expert and novice players. Participants were volleyball experts ($n = 12$, age $M = 21.32$, $SD = .79$ years old and training age $M = 9.5$, $SD = .26$) and novice athletes ($n=12$, age $M = 13.06$, $SD = .48$ and training age $M = 1.4$, $SD = .22$). They were evaluated on the anticipation ability on volleyball service with laboratory test in volleyball game like



condition. It was used the software Superlab v.4.0, the special designed keyboard RB834 (Cedrus) and movie tapes shots from volleyball games. The depended variables were the correct answer and the reaction time. Every athlete was tested and retested after a week in order to define the validity of the instrument. In order to find the experts and novices differences, it was used the analysis of variance (2 group X 2 measurements). The results of the study agree with other studies which underlined that expert athletes have better strategic knowledge and are better in anticipation that is reaction time ($F(1,23) = 26.025, p < .01$) and in correctness of the answer ($F(1,23) = 555.77, p < .01$). The results revealed that the expert athletes could recognize more information referring to different situations and game conditions especially when this information is quick and specific.

Key words:

experts, novices, anticipation, decision making, volleyball.

P2.57

The influence of large or small target and psychological pressure on pitching performance.

Go Murai (Chuo University, Japan)

The purpose of this study was to examine the influence of large or small target and psychological pressure on pitching performance. Participants (N=26) performed 32 trials (8 trials×4 blocks) under the presence or absence of psychological pressure and on the large or small target. The salivary amylase and hit probability were measured to investigate the relationship between psychological pressure and target size. Two analyses were computed using an ANOVA and a two-way ANOVA. The results indicated that there is no interaction between psychological pressure and target size. On the other hand, there is a significant main effect of target size.

P2.58

Behavioral and movement-related potentials associated with finger control after specific practice.

Huai-Hsiao Chiang (Chung-Yuan Christian University, Taiwan)

The findings of movement-related cortical potentials associated with motor effectors have shown that multiple movement parameters were controlled by human body, such as timing, force, orientation, and acceleration, etc. However, some constraints subsisted during movement control and execution, such as finger interdependence, so-called force enslaving, or finger neuro-anatomical factors. In the past, constant rate of force development was used to examine the control of finger force production. The mechanism within various rates of force development associated with higher level of motor system still remained unknown. In terms of motor effectors, the controls of muscles and cortical activations have shown parsimonious adaptation in finger interdependence. The control of force is thought to be changed after specific execution of fingers on both behavioral and cortical level of analyses. This study tried to apply specific feedback to investigate the mechanism of neuro-motor adaptation related to six different rates of force development. 15 college students were required to produce several effector-related tasks associated with force control after four weeks of motor learning. Force outputs and movement-related cortical potentials were collected and a three-way repeated-measured ANOVA in terms of motor learning, nominal force levels and rates of force development were used for analyses. We found that there were significant differences within fingers in terms of task-specific parameters. The results and implications of this study would further explore the behavior-brain relationships.

P2.59

An investigation of anticipatory motor planning during object manipulation.

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Charmayne Hughes (Bielefeld University, Germany)

Christian Seegelke (Bielefeld University, Germany)

Thomas Schack (Bielefeld University, Germany)

People often grasp objects with an initial awkward grip to ensure a comfortable grip at the end of the movement. This end-state comfort effect (ESC) effect has been well examined during uni- and bimanual tasks



in right-handed individuals. However, to date there have been no empirical studies examining motor planning of grasp postures in left-handed individuals. This is intriguing given previous reports of handedness-based differences in motor coordination during bimanual tasks.

Thus, the purpose of the experiment was to examine whether handedness-based differences can be observed in grip behaviour during a grasping and placing task.

20 participants (10 left-handers) grasped two objects from a table and placed them on a fitting board to targets that required identical or different degrees of rotation.

No handedness-based differences were found regarding ESC satisfaction for similar [$\chi^2(1) = 2.83, p = 0.092$] and different [$\chi^2(1) = 6.47, p = 0.421$] target orientations. However, the degree to which end-state comfort was satisfied was significantly higher when the target orientations were identical (92.5%) compared to different (51.5%, $\chi^2(1) = 47.7, p < 0.001$).

Given the lack of handedness-based differences on grip behavior it is possible that a central representation for anticipatory motor planning may exist.

Thus in further experiments we are currently utilizing behavioral and neurophysiological methods to elucidate the underlying mechanisms of grasp planning, and outline potential dependencies between the structural representation and grip behavior in terms of ESC.

P2.60

Study of combined mental and physical practice on learning motor skills in volleyball.

Pothula Madhusudan Reddy (National Institute of Technology, India)

Rajender Singh (Jiwaji University, India)

Introduction:

Mental preparation is intertwined with physical preparation. Skill generates confidence and leads to buoyancy. It is the mental set and the psychological preparedness that make the difference to accomplish the goal to be a winner by making the physical preparation purposeful.

Statistical Techniques:

To find out the significance of mean differences between pre and post tests and adjusted mean, analysis of covariance technique was employed. Ancova was used to analyse the significance of differences between the training effects brought out by mental practice method and control group. Anova repeated measures were employed to find out the rate of improvement in learning the motor skills in volleyball. For testing the hypothesis, the level of significance was set at 0.05 levels.

Summary & Conclusions:

The findings of the study based on analysis of data clearly revealed that there was significant improvement in learning volleyball skills namely volleying, serving, passing and setup due to twelve weeks of combination of mental and physical practice

The analysis of data pertaining to the effect of each of experimental method on the learning rate in the motor skills of volleyball namely volleying, serving, passing, and setup at periodic interval of two weeks of duration of an experiment revealed that there was no significant improvement in any of the skill mentioned above due to the treatment group and control group. However, significant improvement was found in all the skills performance due to combination of mental and physical practice group after treatments were administered for duration of four weeks.

The effect of combination practice method was found to be significantly effective in improving skill performance in volleying, serving, passing, and setup at the periodic interval of every two weeks after fourth week of experiment till the twelfth week.

The findings also revealed that there was no significant improvement in learning of motor skills neither over a period of twelve weeks nor at a periodic interval of two weeks duration in the case of control group.

Conclusions:

Within the limitations of the present study, the following conclusions were drawn:

1 The twelve weeks of combination of mental and physical practice method is effective method to improve performance and learning rate in motor skills of volleyball namely volleying, serving, passing, and setup.

2 The combination of mental and physical practice method is comparatively a better and most effective method to improve performance and skill acquisition of serving skill in volleyball.



The combination of mental and physical practice method and control group were not effective to bring about significant improvement in performance and acquisition of skill due to first two weeks of administration of experimental treatments on any of the criterion motor skills of volleyball namely volleying, serving, passing and setup.

Recommendations:

In light of conclusions drawn, the following recommendations are made:

1. Teachers of physical education and coaches should use combination of mental and physical practice for the acquisition of skills in volleyball.
2. To gain the maximum benefits in skill learning in volleying, serving, passing, and set up, the teachers of physical education and coaches must programme their training with a more emphasis on mental practice.
3. A similar study may be pursued by involving athletes of different proficiency levels and using specific training methods, to determine the optimum adaptation to skills of volleyball.

P2.61

Quiet-eye duration is associated with throwing results in darts, but is it the mechanism?

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Lennart Fischer (Institute of Sport Science, Sportpsychology, Germany)

Bernd Strauss (Institute of Sport Science, Sportpsychology, Germany)

Quiet-Eye (QE) is defined as final fixation or tracking gaze prior to the task movement. Vickers (2000) showed in darts that hits depend on the onset, offset and duration of the QE. The hypothesis of the mechanism of QE is that the longer and better timed duration of foveal vision is used for a better information processing resulting in superior performance. The aim of this study was to investigate the role of foveal and peripheral vision in darts and the dependency of QE on this information using the moving window paradigm. 16 novice and 13 skilled dart players participated in this study and performed three blocks (baseline, foveal, peripheral vision) of 15 dart throws aiming at the bull's-eye. As dependent variables throwing accuracy and consistency as well as perceptual performance were measured using the Eye-Link II-system. Significant differences were found between skilled and novices in accuracy, $F(1,27) = 26.87$, $p < .01$, $u^2p = .50$ and consistency, $F(1,27) = 20.24$, $p < .01$, $u^2p = .43$. Differences between blocks were observed in consistency, $F(1,27) = 132.68$, $p < .01$, $u^2p = .83$. Interactions were revealed for consistency, $F_s(1,27) = 15.76$, $p < .01$, $u^2p = .37$. Remarkably QE duration showed only descriptive differences. Taken together these results raise the question, if foveal fixations are required for information processing during the QE period as hypothesized.

P2.62

Adaptation of throwing behaviour to the new spatial landmarks in European basketball.

Tino Stoeckel (Bielefeld University, Germany)

Udo Fries (Leipzig University, Germany)

Thorben Schwieder (Leipzig University, Germany)

Since 2010/2011 in many European basketball associations the lines on the court in the three-point field goal area were changed substantially. Along with those new lines on the court the distance for three-point shots was enlarged from 6.25m to 6.75m. The introduced changes gave us the unique opportunity to investigate the adaptation process to those new spatial landmarks in basketball experts. Twenty male basketball experts were asked to throw from 6.25m for 40 times, before repeating 40 shots from the new distance; either on a court with only the new lines or a court, where the new three-point distance was marked on the floor in a gym additionally to the old lines. We assessed success rates and throwing tendencies as well as kinematics via high-speed motion-capturing. From 6.25m both groups did not differ in terms of success-rates (49.6%). In contrast, from 6.75m only the group with the marked lines was able to maintain their success rates. Participants that did not see the old lines succeeded in only 31% of the trials, without a clear indication for a trial-by-trial adaptation. While the success-rates for throwing from 6.75m differed significantly between both groups, movement kinematics (i.e., knee-angle, jump-height and jump-width) changed according to the higher distance in all participants. From that we conclude that the well-learned spatial landmarks of the old three-point field goal area deliver relevant information for successfully adapting to the new, higher distance, particularly during movement execution.



P2.63

The locus of control of people actively cycling.

Elzbieta Rostkowska (Department of Biology and Environmental Protection, University School of Physical Education, Poznan, Poland)

Ewa Mojs (Department of Clinical Psychology Poznan University of Medical Sciences, Poland)

Elzbieta Skorupska (Department of Physiotherapy, Rheumatology and Rehabilitation Poznan University of Medical Sciences, Poland)

Włodzimierz Samborski (Department of Physiotherapy, Rheumatology and Rehabilitation Poznan University of Medical Sciences, Poland)

The locus of control of people actively cycling Elzbieta Rostkowska (Department of Biology and Environmental Protection, University School of Physical Education, Poznań, Poland), Ewa Mojs (Department of Clinical Psychology Poznan University of Medical Sciences, Poland), Elzbieta Skorupska (Department of Physiotherapy, Rheumatology and Rehabilitation Poznan University of Medical Sciences, Poland), Włodzimierz Samborski (Department of Physiotherapy, Rheumatology and Rehabilitation Poznan University of Medical Sciences, Poland)

Introduction:

The substantial health enhancing potential of physical and psychological activity can be realized by incorporation of physical activity in everyday style of life. Cycling may be an important factor improving health in many different areas.

Aim of the study:

The aim of the study was to estimate differences in psychological functioning as well as physical in people who introduced cycling in everyday activity.

Methods:

The questionnaire of coping with stress and some opinions about the meaning of physical activity was used in the study. The next method was The Scale MHLC-Multidimensional Scale of Health Control Localization. The effort test was conducted on the stationary bicycle-knocking down 25 km in the draught 5 faces near the solid burden. The resting pulse was also estimated directly after effort and heart rate after one minute.

Material:

20 persons growing the cycling in the age actively participated in investigations in age of 25-60 years. 20 healthy persons well-chosen made up the group of the reference under in relation to age, sex, educations and the places of the residence not growing any different sport, passive persons physically.

Results:

The results of the questionnaire of own concept show that active persons better cope with stress in comparison to passive ones. The locus of health control was internal in both groups, but internal locus in active group has appeared more often.

The biological parameters were better in persons who increase cycling.

Conclusion:

Active style of life, cycling as an example of everyday physical activity improves fitness as well as mental health.

Changes in Tactile Threshold in Swimmers.

Elzbieta Kaluga (Department of Biology and Environmental Protection, University School of Physical Education, Poznań, Poland)

Elzbieta Rostkowska (Department of Biology and Environmental Protection, University School of Physical Education, Poznań, Poland)

Ewa Mojs (Department of Clinical Psychology Poznan University of Medical Sciences, Poland)

Elzbieta Skorupska (Department of Physiotherapy, Rheumatology and Rehabilitation Poznan University of Medical Sciences, Poland)

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Immersion of the body in water causes hydration of the cornified layer of the skin and may result in the change of its tactile sensitivity. The aim of the study was to establish changes in tactile threshold of swimmers during physical activity in the water environment. The study included 31 male swimmers and 31 men in the reference group aged 19-20. An aesthesiometer was used for the tests. The tactile threshold was measured in three points of the right hand: on the pulp of the little finger, on the pulp of the index finger, on the metacarpus of the palm side of the hand, between thenar and hypothenar. The measurement of the tactile threshold was carried out three times. Non-parametric tests were used for the analysis of the results. On subsequent measurements in three measurement points the lowering of the tactile threshold (an increase in tactile sensitivity) was noted, both in the group of swimmers and in the reference group, where highly statistically significant differences were noted between the 1st and the 3rd measurement. No statistically significant differences were noted in the comparison of mean values of the tactile threshold on three measurement points in three measurements in the swimmers and in the reference group. On the basis of this it was concluded that the lowering of the tactile threshold in the swimmers and in the reference group was caused by changes in the mechanical properties of the skin caused by its hydration and not additionally by physical activity.



Poster session 3 | Thursday, July 14th | 10:00-12:00

P3.01

The effect of audio feedback in judo training: a study on Ippon Seoi Nage.

Bresolin Guido (Dept.of Psychology, University of Trieste, Italy)

Motor control is founded on the ability to guide neuromuscular activity using sensory information in the optimum way and with the most appropriate timing. In such a process, the role of biofeedback shows the great potential of a systematic use of psychological strategies to improve motor capabilities, especially in agonistic sportsmen.

Having defined the unbalancing of the opponent as one of the most important situations in judo, we used an acoustic feedback to measure the effectiveness of the implementation of combat techniques in a series of consecutive attacks. Two samples of 10 subjects took part in the experiment and just one subject was employed as a sparring partner, who underwent the attacks, and whose unbalancing was detected by a device on each attempted attack. Each subject carried out three series of 20 attacks: baseline, treatment and post-treatment. The two groups (experimental and control) differed only according to the presence or absence of acoustic feedback in the treatment stage. During the baseline series and post-treatment series of attacks the subjects were anyway given no acoustic feedback. The effect of the feedback is significant if the difference between the treatment series and the baseline series of the experimental group, in terms of effective attacks, is analysed. At the same time, the decline of the feedback effect was seen to be very fast.

The control group demonstrated significant equivalence between the three series compared with the efficacy parameter of the attacks. The results suggest the necessity of evaluating also the effect of the feedback compared with the efficacy parameter and economy of the motor action parameter, overcoming the classical vision of evaluation of the learning process, based on the "success-failure" dichotomy.

P3.02

The use of rhythmical strategy to standardize the performance in young bikers.

Bresolin Guido (Dept.of Psychology, University of Trieste, Italy)

Mattiussi Michele (Dept.of Psychology, University of Trieste, Italy)

Agostini Tiziano (Dept.of Psychology, University of Trieste, Italy)

According to the rhythmic hypothesis, performance can be improved and regulated during the production of cyclical movement through rhythmic stimuli. Unlike classic biofeedback, which uses translations of internal body states as stimulus, II order biofeedback employs only information of which the subject is anyway aware.

In this study, the effect of three different kinds of stimuli in three different trials on the heart rate of 9 amateur cyclists was evaluated. All the experimental conditions were presented to all subjects, in the same order, preceded by measurement of the aerobic threshold, used as a reference from which to gauge effort intensity.

In the first condition a classic biofeedback was given to the subject, whereas in the other two conditions a II order biofeedback, respectively visually and acoustically, was given.

The results show a significant reduction of the subject's heart rate in the conditions of II order biofeedback compared to the classic biofeedback. It is not yet clear what the duration of this effect is, or what is the best way to administer II order biofeedback. It is possible to make use of this technology during training in order to accustom athletes to saving energy in their performance, a saving which will be easy to replicate in a competition.

P3.03

Optimizing performance in an élite level shooter.

Claudio Robazza (Faculty of Human Movement Science, Italy)

Laura Bortoli (Faculty of Human Movement Science, Italy)

Maurizio Bertollo (Faculty of Human Movement Science, Italy)

Action-oriented methods have been recently developed and applied in sport to help athletes improve, stabilize, and optimize their performance during practice and competition. For example, Hanin and Hanina



(2009) proposed an action-focused intervention procedure in top level athletes closely interrelated to emotion-focused coping. Drawing on this perspective, we applied an action-oriented individualized approach in a preliminary study on an elite level, small bore pistol shooter (a 20-year-old woman), who was involved in a four-step procedure. First, the participant was requested to accurately and extensively describe her usually optimal sequence (i.e., the chain of actions) of a single shot from start to follow-through. Second, the shooter was asked to identify from her "chain" a small number of the most important "key points" (three or four) deemed fundamental in order to optimally perform. Third, the performer was engaged in several shooting sessions and requested to assess herself by rating the accuracy of each key point on a modified 11-point Borg scale. Key point ratings were linked to shooting scores classified as good (10 and above) or poor (less than 10). Logistical ordinal regression (LOR) analysis was then conducted to identify the probability levels of optimal/poor performance associated with the key point ratings. Path analysis was also executed to examine the full links among key point scores and the full range of shooting scores. Finally, the most influential key points identified through LOR and path analysis were applied in competition.

P3.04

Improve the rhythm in track and field. Ongoing training with acoustic models.

Diego Tosi (Studio associato Auryn, Italy)

According to the literature, the employment of acoustic model created "ad hoc" on the athletes, help them to improve their performances standardizing their movements and reducing the number of the useless gesture. It will be shown that this technique help the athletes to standardize their run ups in pole vault and the steps before the throw in discus throw.

An ongoing training is created recording some practices of the athletes and recording them by camera. The best performance selected by the athletes is used to create the model.

In the training, one for week, the athletes listen the acoustic model by headphones immediately before the performance. Listen to the model before the performance creates a portrayal in the minds of the athletes standardizing their movements and helps them to act their best performance.

In discus throw every session is composed by 15 or 20 throws and the score are compared in average and standard deviation, matching them with a baseline previously registered during the practices in while the model is recorded.

In pole vault, at the same, during the registration of the model, the score of the athletes are registered to obtain the base line considering the measures that are reached and the number of attempts that the athletes need to reach it. It's calculated and matched the number of the invalid run ups too.

P3.05

Elite Norwegian athletes coping with the media at the Vancouver Winter Olympics.

Elsa Kristiansen (Norwegian School of Sport Sciences, Norway)

Dag Vidar Hanstad (Norwegian School of Sport Sciences, Norway)

Glyn C. Roberts (Norwegian School of Sport Sciences, Norway)

The purpose of this study was to examine the journalist-athlete relationship at a major competitive event in order to better understand how the media may become a stressor and how elite athletes cope with press interview demands and the subsequent media story. Being available for the media is considered to be part of the job of being an elite athlete. In this study, ten participants from the Norwegian national team were interviewed after the 2010 Vancouver Olympic Winter Games.

The results revealed that the journalist-athlete relationship is a paradoxical one; the athletes understand the journalists' need for stories and inside information, but they try to keep their distance. The stress perceived by the athletes may be caused partly by the conflict of power in the interview setting; both in the interaction between the journalists and athletes, and the media product that the athletes must cope with in the end. To cope with the media demands, we found evidence of problem-focused coping strategies, social support and avoidance coping, and also some athletes taking a media break as the ultimate way of avoidance coping. One way of coping was the use of social support within a mastery climate to protect the athletes from media demands. In some cases, it was productive to have the support-personnel meet the media and become a "lightning rod" to take the attention from the athlete when "catastrophes" happened and give the athletes time to concentrate and refocus in order to perform well.



P3.06

Gender Differences on Offensive “Role Ambiguity” duties, among volleyball players.

Evangelos Bebetos (Democritus University of Thrace, Greece)

Olga Kouli (Democritus University of Thrace, Greece)

The aim of the study was the investigation of any possible gender differences in regard to role ambiguity in offensive duties, among volleyball players in Greece. More specifically, the sample consisted of 216 athletes, (108 men and 108 women). Their ages ranged from 14 to 39 yrs. ($M=24.31$, $SD=5.31$). Additionally, the athletes were: 72 from the A1 National Category, 72 from the A2 National Category and 72 from the B National Category. The instrument that was used in the study was the “Role Ambiguity Scale” (Beachamp, Bray, Eys & Carron, 2002; Bebetos, Theodorakis & Tsigilis, 2007) for offensive duties. The results revealed multiple statistical differences. More specifically, differences were indicated on the interaction among “gender” and “Role Behavior” ($F_{2,202}=7.40$, $p<0.05$), among “gender” and the “Scope of Responsibilities” ($F_{2,203}=1.87$, $p<0.05$), among “gender” and “Role Evaluation” ($F_{2,203}=3.72$, $p<0.05$) and finally, among “gender” and the “Role Consequences” ($F_{2,203}=5$, $p<0.05$). In conclusion, we could say that this research points the importance and the meaning of the Role Ambiguity into the Greek sports reality. Similar researches could help the athletes, the coaches, even people that deal with exercise for life to understand how, when and why role ambiguity could burden the athletic progress and performance.

P3.07

A qualitative exploration of athlete perceptions of social loafing.

Gareth Jones (University of Worcester, UK)

Rune Hoigaard (University of Agder, Norway)

Derek Peters (University of Worcester, UK)

Social loafing, or the ‘reduction in individual effort when people work in groups’ (Latane, 1986) impacts detrimentally upon both the motivational and coordination aspects of Steiner’s model and has been shown to reduce group productivity (Kravitz & Martin, 1986). Indeed, the mere perception that other members of a team are social loafing (perceived social loafing) has also been found to result in reduced team performance (Hoigaard, 2006).

Twenty individual semi-structured interviews were conducted with sports men ($n=12$) and women ($n=8$) from a variety of interactive team sports at both semi-professional and professional levels. Inductive content analysis highlighted the differentiation between perceived social loafing and the perceived use of ‘strategic rest’ in team sports. High order themes consisted of the following aspects: Context; Perceptions of loafing among others; Signals of loafing and the Consequences of loafing. Perceptions of social loafing were found to be dependent on the type of sport, position of players concerned, role within the team and the ability of the team members. Signals of social loafing included general positioning on the field of play and cognitive and emotional signals (non-verbal, vocal and behavioural). The majority of players indicated that they would not modify their efforts in competitive matches if they perceived others to be being doing so but would do so in a training situation. The consequences of social loafing emphasise the need to identify this issue in both training and competitive situations in order to enhance group productivity.

P3.08

Personality and performance under pressure: The interactionistic principle of trait activation.

Katharina Geukes (Ruhr-University Bochum / University of Queensland, Australia)

Christopher Mesagno (The University of Ballarat, Australia)

Stephanie J. Hanrahan (The University of Queensland, Australia)

Michael Kellmann (Ruhr-University Bochum, The University of Queensland, Australia)

Within psychology, human behavior and performance are explained by person variables (i.e., dispositions), situation variables (i.e., situational demands) and the person-situation interaction. The interactionist principle of trait activation (Tett & Guterman, 2000) hypothesizes that trait-relevant situational cues arouse a trait, resulting in a behavioral expression of that trait or systematic performance differences due to scores on that trait. Applying this interactionist principle to performance under pressure in sports provides a comprehensive



explanation about why some individuals show increases, and others decreases, in performance from low to high-pressure condition and why these performance changes are predictable by personality dispositions. Within current research, however, high-pressure situations have exclusively taken place in laboratory-based settings, lacking ecological validity and testing only one possible high-pressure setting. Real-world high-pressure situations, in contrast, commonly involve large audiences offering public evaluation as a situational demand. Thus, trait activation would predict different traits to be relevant in real-world and laboratory-based high-pressure contexts. Results of two experimental studies in European handball comparing these high-pressure settings support the interactionist contention that the relationship of personality and performance under pressure is best explained by taking person and situation variables into account. The conceptual relation of dispositions to situational demands (i.e., situation-trait relevance) is a precondition to find systematic relationships of traits to performance under pressure.

P3.09

Relationships between personality dimensions and locus of control in young elite athletes.

Malgorzata Maria Slawinska (University of Thessaly, Greece)

Haznadar Adisa (University of Thessaly, Greece)

Helena Mroczkowska (Institute of Sport, Poland)

Antonis Hatzigeorgiadis (University of Thessaly, Greece)

Personality has been shown as an interaction of the person and the environment and is considered a stable set of potentials for responding to situations in a particular way. Locus of control refers to one's belief in his or her abilities to control life events and it is described as a modifiable feature of personality. An individual with high internal locus of control believes that outcomes are related to his or her behavior or personal investment, while an individual with high external locus of control believes that outcomes are not related to his or her behavior but to external forces beyond his or her control. The purpose of this study was to examine if personality dimensions could predict locus of control in young elite athletes. Participants were 40 Polish volleyball players with mean age 16.42 (\pm 2.63) years and mean competitive experience 5.49 (\pm 1.90) years. Participants completed the NEO Five-Factor Inventory (NEO-FFI) assessing personality traits and the Delta questionnaire assessing internal and external locus of control. Regression analysis revealed that conscientiousness was the strongest predictor of internal locus of control, whereas neuroticism was the strongest predictor of external locus of control. Outcomes from the study were consistent with the contemporary literature findings.

P3.10

Are the positive affective responses of a Qigong session associated with positive expectations?

Mattias Johansson (School of Health and Social Studies, Sweden)

Peter Hassmén (Umeå University, Sweden)

Anna Hertting (School of Health and Medical Sciences, Örebro University, Sweden)

Acute affective responses to single sessions of Qigong are associated with an improved emotional state for the practitioner. Positive expectations may be one explanation for the affective benefits associated with Qigong. The aim of the present study was to test the association between positive expectations and affective outcomes of a single Qigong bout. Forty six regular Qigong practitioners (M 59yr) took part in the study and a dimensional affect measure (four subscales), was administered before, during and after the Qigong bout. The participants also filled out a questionnaire of positive expectations of Qigong. The measure consists of one subscale assessing expected affective changes during the session and one subscale after the session. Mean scores displayed a significant increase in positive affect on the four subscales as the bout proceeded. Out of eight correlations (Pearson), only the affective subscale of Negative Activation – Positive Deactivation was found significant ($p < .05$; $r = .31$) with that of positive expectations after the bout. We expected to find more significant correlations as other mind-body methods have found such results in other studies. Yet, as positive expectations were high (4.1 and 4.5 respectively out of 5) a ceiling effect may explain the few significant correlations. On the contrary, the significant association with increased Pleasant Deactivation may be how the relationship between positive expectations and Qigong-related affective outcomes is displayed. There seem to be a relationship between positive expectations and affective benefits associated with Qigong, but to more fully understand this relationship more studies are needed.



P3.11

Psychophysiological monitoring of a young rider during horse jumping practice.

Maurizio Bertollo (University "G. D'Annunzio", BIND Center, Italy)

Laura Bortoli (University "G. D'Annunzio", BIND Center, Italy)

Claudio Robazza (University "G. D'Annunzio", BIND Center, Italy)

Modern equestrian jumping competitions require that horse and rider complete a course of 10 to 13 jumps. The aim is always to jump the course in the designed sequence with no mistakes, in a faster manner. If any part of an obstacle is knocked down or if the horse refuses a jump, penalties are accumulated. This performance requires high level of attention and good balance of autonomic nervous system as well as a good sympathetic control of posture between horse and rider. To prevent choking under pressure it is important to investigate the psychophysiological profile during practice and competition, and to implement a bio-neurofeedback training to improve the coping ability and awareness of riders. To investigate a rider's profile we run a preliminary study where we monitored the physiological responses (PR) and body acceleration (BA) during practice, associated with different stages of performance, in a young male rider (17 years old). PR and BA were measured through the ADInstruments BioHarness Telemetry System. Specifically, indicative ECG Trace, Heart Rate (HR), Breathing Rate (BR), Depth of Breath, Skin Temperature (ST), Posture, and Activity data were collected. These recorded biopotentials were then analyzed using LabChart (ADInstruments) and Kubios software (Kuopio, Finland). Peak analysis was conducted for HR, BR, ST, and posture, during different stages of performance. Moreover, we examined HRV related to different stages of performance (galloping, jumping and trotting or stepping). Results demonstrated specific psychophysiological profile and autonomic response for each stage of performance and for each type of obstacle.

P3.12

Psychophysiological monitoring during simulated car race in a "World Series by Renault" driver.

Maurizio Bertollo (University "G. D'Annunzio", BIND Center, Italy)

Katerina Mazzoni (University "G. D'annunzio", Italy)

Laura Bortoli (University "G. D'Annunzio", BIND Center, Italy)

Claudio Robazza (University "G. D'Annunzio", BIND Center, Italy)

Car race is a demanding sporting performance involving high levels of physical and mental workload. In order to investigate the cognitive and affective workload of car drivers we developed a protocol study in which the physiological responses (PR) and body acceleration (BA) associated with different emotional states and performance were monitored. PR and BA were measured through the ADInstruments BioHarness Telemetry System chest belt. Specifically, indicative ECG Trace, Heart Rate (HR), Breathing Rate (BR), Depth of Breath, Skin Temperature (ST), Posture, and Activity data were collected. These recorded biopotentials were then analyzed using LabChart (ADInstruments) and Kubios software (Kuopio, Finland). AIGP dynamic simulator (Allinsport, Modena IT) was used in conjunction with RFactor PRO software. The Hockenheim (GER), Vallelunga (IT) and Budapest (H) Tracks were choice for simulated car races. We conducted a preliminary study on an Elite World Series by Renault Driver. Peak analysis related to performance and emotional states was performed for HR, BR, ST, and posture. Moreover, we examined Heart Rate Variability related to different emotional conditions and performance. Results demonstrated specific profile and autonomic response for each state and each track referred to performance and stressful conditions.

P3.13

Coping with performance success in high performance women athletes.

Amber D. Mosewich (University of British Columbia, Canada)

Peter R. E. Crocker (University of British Columbia, Canada)

A lack of effective coping skills in the athletic domain has been linked to less than optimal performance in sport, negative emotions, and poor social functioning (Hoar et al., 2006; Nicholls, 2010; Nicholls & Polman, 2007). Coping is most commonly thought of as sharing context with setbacks and failures; however, success, while positive, can introduce new challenges that also require effective coping resources. This research study examined university aged women athletes' experiences with performance success and related coping



strategies and was part of a larger study on coping in sport. Semi-structured one-on-one interviews with five athletes surrounding success experiences in sport and reflection on approaches to coping allowed for relevant themes to emerge through categorical aggregation (Stake, 1995). The athletes voiced that with increased success came increased pressure to perform, as well as personal performance concerns. Feelings of increased attention by others were also reported; however, the athletes still reported feelings of isolation connected to their success. This isolation included feeling disconnected from training partners and teammates when, for example, success and improvement led to different, advanced workouts. Key themes related to coping surrounded finding a balance in order to enjoy the success, but not lose sight of the bigger picture; using success as a springboard for the next performance challenge; and continued focus and goal striving. These results speak to the importance of looking beyond hardships and considering the implications of success when examining coping processes among athletes or when working with athletes in an applied setting.

P3.14

Hardiness in long distance running, a comparison between ultra-trail and 10K runners.

Ricardo de la Vega Marcos (Universidad Autónoma de Madrid, Spain)

Oswaldo Rivera (Universidad Politécnica de Madrid, Spain)

Roberto Ruiz (Universidad Autónoma de Madrid, Spain)

Constanza Pujals (Universidad Autónoma de Madrid, Spain)

Hardiness is an individual characteristic which allows to coping with life stressors and turning them into advantages (Kobasa, 1979 Maddi, 2006a, 2006b, 2007). Their components of Commitment, Control & Challenge can protect the athletes against the unpredictable circumstances of endurance running. Furthermore, high hardiness levels are related with elite level sport performance (Golby, Sheard, Lavalley, 2003; Sheard, 2009; Sheard, Golby, 2010). The purpose of this study was to compare for the first time the hardiness levels between two groups of endurance runners and to determinate if this levels were related with a successful race performance. Volunteers 130 (69 ultra trail & 61 10K) runners, ranged in age from 20 to 56 years ($M = 35.4$, $SD = 7.3$), who completed the 30-item Hardiness for Marathoners Scale (EPRM) during the day race. Mean analysis comparison revealed that there was no differences in hardiness levels between the two groups ($Z = .280$, $p = .77$), the fastest race times were independent from high hardiness levels ($r = .004$, $p = .40$). Moreover, no differences in hardiness were found between ultra runners who finished the race and those who drop out ($p = .78$). The results suggest that successful performance can not be predicted by high hardiness levels furthermore is not a psychological characteristic of runners with the best race times. The hardiness benefits in long distance runners were not observed. It would be necessary to review the hardiness construct because it was not possible to determinate exactly how is materialized in endurance sports.

P3.15

Influence of cognitive strategies on perceived exertion at aerobic threshold speed in long distance runners.

Ricardo de la Vega Marcos (Universidad Autónoma de Madrid, Spain)

Oswaldo Rivera (Universidad Politécnica de Madrid, Spain)

Juan José Ramos (Universidad Complutense de Madrid, Spain)

Roberto Ruiz (Universidad Autónoma de Madrid, Spain)

Juan Carlos Segóvia (Universidad Complutense de Madrid, Spain)

Jose Manuel Hernandez (Universidad Autónoma de Madrid, Spain)

Víctor Rubio (Universidad Autónoma de Madrid, Spain)

Javier Lopez-Silvarrey (Universidad Complutense de Madrid, Spain)

Miguel Quintana (Universidad Complutense de Madrid/O3WellBeing Solutions, Spain)

Constanza Pujals (Universidad Autónoma de Madrid, Spain)

Previous research concerning the use of cognitive strategies in endurance sports has suggested that associative strategies are related to a better performance whereas dissociative strategies tends to reduce perceived exertion. Athletes predominantly use associative strategies during competitions meanwhile dissociative strategies are mostly used in training. A total of 24 long distance runners, ranged in age from 18 to 50 ($M = 32.54$, $SD = 8.7$) volunteered for the study. Participants attended three times to the laboratory: (1) to determinate the aerobic threshold in order to set the workload speed; (2) experimental condition of associative strategy (focus on breathing) and (3) dissociative strategy (focus on a visual target) which were



tracked with a mobile software application while running 55 minutes on a treadmill. Rating of Perceived Exertion (RPE) central and peripheral values were obtained at 5 minute intervals. Total and 3 stages average RPE values were analyzed. Participants reported in an interview a preference for associative strategy during competition (66.7%) and dissociative for training (75%); which is consistent with previous research. Results showed that there were no difference in central ($p = .68$) and peripheral ($p = .61$) RPE values between cognitive strategies. The results in contrast with previous research, suggest that cognitive strategies do not affect subjective perceived exertion. When both, attentional focus during cognitive strategies and workload speed are controlled; the use of cognitive strategies has no influence on subjective perceived exertion when the workload is within the aerobic threshold.

P3.16

Comparison of two different classifications of sport for the prediction of juvenile violence.

Simone Rust (University of Berne, Switzerland)

Juerg Schmid (University of Berne, Switzerland)

Karin Moesch (University of Lund, Sweden)

Roland Seiler (University of Bern, Switzerland)

In many countries juvenile violence is increasing. Sport is one of the many factors which have been taken into consideration while exploring this phenomenon. However, neither theoretical approaches nor empirical findings allow clear predictions of the influence of sport engagement on youth violence. One reason for this may be the different and rather rudimentary classifications of sport. Therefore the purpose of this cross-sectional study was to compare the predictive value of one of the common classification in contact and non-contact sports and a classification based on psychological demand dimensions of sport type for the occurrence of juvenile violence.

A sample of 1837 adolescents aged 12-18 years of both gender is included in the analysis. Based on suggestions from the project 'Sportarten-Kompass' (Toggweiler & Schmid, 2008), the main sport of each adolescent were assigned the respective values on 12 psychological demand dimensions (e.g., intellect, cooperation, aggressiveness). In addition, attitude towards violence, justification of violence, psychological violence, physical violence and delinquency of the participants were assessed (Brettschneider, Brandl-Bredenbeck & Hofmann, 2005).

Independent-samples t-tests were conducted comparing contact and non-contact sports in the five violence scales. Significant differences in all five scales were found. For each of the five violence scales binary logistic regression was performed. The full models containing all predictors were statistically significant. The amounts of explained variance (N^2 , Cox and Snell R^2 and Nagelkerke R^2) for the two classifications of sport are below 10% and the predictive value for juvenile violence is approximately equal.

P3.17

Gender Differences In Psychological Effect Of The Revised Start Rule On Sprinters' Attitudes And Start Action.

Yoko Kajiwara (Bunkyo University, Japan)

Masami Hirashita (Kanazawa Gakuin University, Japan)

Saburo Yokokura (Meisei University, Japan)

Shinichiro Ono (Maizuru National College of Technology & Showa University School of Medicine, Japan)

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Hiroki Fuwa (Jobu University, Japan)

Mitsuharu Yonezu (Bunkyo University, Japan).

In January 2003, the IAAF (International Association of Athletics Federations) applied a new rule, "only one false start per race shall be allowed without the disqualification of the athlete(s) making the false start. Any athlete(s) making further false starts in the race shall be disqualified."

In the IAAF World Grand Prix Meeting held in May 2003, a variety of problems reportedly occurred. This was probably because the athletes were under more psychological pressure, as the meeting was the first international competition immediately held in accordance with a stricter rule.

We conducted a study involving Japanese university sprinters to: 1) examine the effects of the revised start



rule on their start action and attitudes, and 2) compare differences in its effects between male and female sprinters.

Prior to the revision of the rule, as many as 45% of the 281 Japanese university sprinters made a speculation-based starts (gamble starts). There were no significant differences between the male (n=191) and female (n=90) sprinters. Following the revision of the rule, the number of male and female sprinters committing gamble starts decreased by more than 30%.

Their level of concentration on the starting signal also increased; the level was higher among female sprinters. The athletes, particularly female sprinters, were more careful about their start action.

The revised rule is considered to be exerting considerable psychological burden on the female sprinters. In January 2010, the IAAF applied a new rule. We would like to conduct further research to examine the new zero-tolerance rule.

P3.18

Practices and perspectives around a Program for the Training of Psychological Skills with athletes of Adapted Sport.

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The sport seems to be an important stimulus on rehabilitation and social reintegration of persons with deficiency. The psychological preparation of the athlete is known as an important part of the training process, whose absence he feels clearly as a limitation.

With this study we've tried to analyse the sport's performance among the implementation of a Program for the Training of Psychological Skills. For that, we've taken in account the most relevant psychological variables on the activity (Dasil, 2002), the model for development and implementation of TCP Program (Cruz & Viana, 1996) and the steps of Applied Psychology Program connected to the field of Sport (Becker Junior and Samulski, 2002).

The methodology includes the articulation of two slopes: a qualitative way, with a case study as main resource, and a quantitative way, which involved the application of psychometric tests and the analysis of the results at two specific moments of the competition. The sample was build with four senior athletes of Adapted Sport, of both sexes (M. ages = 22.7), integrated on a Special Needs Scholl and making athletic activities.

With this intervention, enclosed on the triangulation Deficiency / Adapted Sport / TCP Program, we've verified that it shows favourable aspects and is good method for personal development, social and athletic skills development for the population with intellectual handicaps.

Keywords:

Deficiency, Adapted Sport, Psychological Training

P3.19

The importance of sport psychological characteristics in talented adolescent long distance runners.

Ankebé Kruger (North West University, RSA)

Long distance running is a moderate to high-power activity supported by aerobic energy. Apart from the importance of aerobic conditioning, long distance running requires a great deal of mental toughness. The purpose of this study was to compare talented, with less talented distance runners, in order to identify the sport psychological characteristics exhibited by talented distance runners. A cross-sectional study design was used. The study consisted of 182 grade 8 pupils, eighty seven (n=87) boys and ninety five (n=95) girls. Sport psychological skill levels were measured with the Athletic Copings Skills Inventory (ACSI-28). The Australian Talent Search protocol was used to identify general sporting talent. The results of the beep test were used to identify the most talented potential distance runners. The top 30% (n=58) of the adolescents were assigned to group 1 (talented group) and the rest of the adolescents to group 2 (n=107) (less talented). The results revealed that the talented group obtained significantly better results in 6 of the 8 variables which included adversity, pressure, goal-setting, concentration, coachability as well as the average coping ability than the less talented group. Moderate practical significance was found in 7 of the 8 variables which included adversity, pressure, goal-setting, concentration, confidence, coachability and coping ability, and a small practical significance was found for worry. It is therefore, important to consider psychological skill development in young



athletes to enhance their athletic performance.

P3.20

Comparison of different techniques of Mental Training: An experimental study.

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Physical training combined with mental training has assumed an important role in improving performance. In this study of an experimental nature, we intend to compare results from different types of training in the evolution of performance on a psychomotor task.

The study included 59 participants (convenience sample), 33 males and 26 females. To test the effectiveness of the program, the sample was randomly divided into three groups: control group (CG n = 15) (without training), experimental group 1 (EG1 n = 14) (practice task), experimental group 2 (EG2 n = 15) (Biofeedback training more practical task) and experimental group 3 (EG3 n = 15) (training practice more imagery task). The training of the experimental groups had 10 sessions spread out over four weeks (10 practice sessions for EG1, 5 practice sessions + 5 biofeedback sessions to EG2, 5 practice sessions + 5 mental Imagery sessions for GE2). Apart from these sessions, EG2 e EG 3 were subjected to 5 introduction to mental training sessions ,with no relation to the task.

Comparing each group, from the first to the second assessment, only the experimental groups significantly improved their performance, and groups with mental training (EG2 and EG3) were most effective. When we compared the development between group, it was found that EG2 and EG3 show significant improvements in performance measures compared to the control group. The EG1 was different from any of the above. Also in relation to the number of mistakes just EG2 and EG3 show a significant reduction.

P3.21

How “The Best” Athletes “Are Made Of”? Looking Into Their Psychological Mirrors.

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Leandro S. Almeida (Department of Education, University of Minho, Portugal)

Recently there has been an increasing interest in the understanding of excellence in sport, which is evident in the growing research about a wide range of personal and contextual factors associated with excellent performances. Given the multiplicity of intervening variables, it becomes essential to understand the exceptional achievements from the individual experiences and “lens” of participants. Using a qualitative methodology, 18 portuguese elite athletes from eleven different sports, competing at higher international level, were purposefully selected. A semi-structured interview was used in order to explore the perception of such athletes about the “ingredients” for their continuous success, as well as to analyse similarities and differences between individual and team sports. Results of content analysis revealed seven major themes: commitment, goal-setting, training and deliberate practice, sacrifice, persistence, humility and team work. In addition, analyzing the similarities between types of sport, it was found that commitment and training and deliberate practice were the most valued themes in both groups. On the other hand, while team coordination was only found in team sports, optimism and self-confidence were particularly emphasized in individual sports. Overall, results show that athletes have a diverse and unique perception of what explains their exceptional performances. These data also suggest some implications for future research toward a better understanding of the “psychological architecture” of athletes that maintain a consistent exceptional level of performance.



P3.22

Mental Skills In South African Undergraduate University Students: An Exploratory Study.

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B. J. M. Steyn (University of Pretoria RSA, South Africa)

R. M. Buscombe (University of East London, UK)

Mental skills are an important aspect of life, health and well-being. Such skills are holistic, naturally occurring, interrelated and overlapping. They can be conceptually divided into distinct but arbitrary categories for research, teaching, assessment and training purposes. In various South African academic and professional fields such as sport and exercise psychology, mental skills are measured individually and/or collectively using internationally developed scales. Currently normative values for such measures are lacking in South African samples. The purpose of this study was to establish preliminary South African norms for Bull's Mental Skills Questionnaire, which consists of seven mental skill subscales: imagery ability (ia), mental preparation (mp), self-confidence (sc), anxiety and worry management (awm), concentration ability (ca), relaxation ability (ra) and motivation (m). Data were collected from 500 male and female, first and second year university students with a mean age of 20.18 years and standard deviation of 2.61. Means and standard deviations for the subscales and total score were as follows: ia (18.55; 3.46), mp (18.55; 3.73), sc (17.48; 4.10), awm (15.32; 4.99), ca (17.96; 4.45), ra (16.27; 4.59), m (19.07; 3.64) and total (123.22; 18.79). Significant correlations between all subscales except between imagery ability and anxiety and worry management were evident ($p < 0.05$). Similar data is being collected from a university in the United Kingdom for purposes of comparative evaluation.

P3.23

Evaluation of a psychological skill in Japanese athletes: II. Comparison of gender, age and skill level.

Eiji Watanabe (Ryukoku University, Japan)

Hiroaki Wakayama (Yokkaichi University, Japan)

Toshiro Endo (Daito Bunka University, Japan)

The evaluation of athletes' psychological skills has contributed to field of applied sport psychology. However, limited study exists in Japanese athletes, especially psychological skill in practice setting. The aim of present study was to examine the evaluation of a psychological skill in Japanese athletes with the Japanese version of the Test of Performance Strategies (TOPS). The Japanese version of TOPS in terms of factor structure differed from original English version. Altogether, 724 athletes aged 15–24 years (546 males aged 19.5 ± 1.9 years, 178 females athletes aged 18.6 ± 2.0 years; 154 high school athletes, 570 collegiate athletes;) participated in this study. Athletes who belonged to varsity team competed in broad range of sports, including volleyball, track and field, baseball, soccer, and tennis. The skill level of participants was ranging from regional athletes to international athletes. Analysis of Variance (ANOVA) was used to compare the differences between genders, ages, and skill levels in each factor. Statistical differences in several factors in both competition and practice were found for gender and the age by using the ANOVA. Result indicated no statically significant differences among skill level. On the basis of those results, we discuss the characteristics of psychological skill in Japanese athletes and future directions.

P3.24

The effectiveness of a psychological skills Training (PST) with young elite athletes.

Franziska Preis (University of Leipzig, Germany)

The German school system of competitive sports offers a new area for psychological skills Training (PST) programs in daily routines of young athletes. However, only a few of the sports schools have implemented PST programs and a systematic scientific evaluation of such programs is even more rarely accomplished (Preis, 2010). The evaluation of the effectiveness of PST programs (e.g. Hinshaw, 1991) should be indispensable but is often an overlooked aspect of PST realisations (Weinberg & Gould, 2007).

Method:

Therefore in this study a quasi-experimental design (EG = 28 athletes, CG = 31 athletes; age: M = 14,59) was chosen to identify effects of the developed PST program which combines arousal regulation, concentration and



goal setting techniques taught in eight group sessions. Special personal resources like self-regulation skills and self-efficacy (general and sports specific) were collected using standardized questionnaires.

Results:

The results show a significant Group \times Time interaction effect [$F(1, 54) = 8.476, p = .00, \eta^2 = .136$] for general self-efficacy. Main effects of time were found in four of twelve self-regulation skills and in the sport specific self-efficacy to be in the experimental group's favour.

Discussion:

The effectiveness of the program could be illustrated for substantial personal resources. The non-gained increases were potentially caused by the too short intervention and by the lack of fit of German sport psychological measuring instruments for multimodal interventions.

P3.25

Mental Skill Levels Of South African Tertiary Institutions Male Field Hockey Players In Different Playing Positions.

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Maryke Eloff (North-West University, RSA, South Africa)

Andries Monyeki (North-West University, RSA, South Africa)

Previous research from other sporting codes highlighted the importance of taking positional differences into consideration when developing mental skills training (MST) programmes, due to the different requirements of each playing position. The purpose of this study was to determine the possible positional differences in mental skill levels among 91 South African tertiary institution male field hockey players. The participants competed in the University Sport of South Africa (USSA) tournament and were divided into four playing positions (i.e. goalkeepers ($n = 12$), forwards ($n = 24$), midfielders ($n = 25$) and backs ($n = 30$)). The participants completed the Ottawa Mental Skills Assessment Tool (OMSAT-3) measuring 12 mental skill subscales. The positional results were compared by means of effect sizes (expressed as Cohen's d -value) and yielded 22 moderate and 13 large practical significant differences between the four positional groups. Collectively the results show that the goalkeepers had the lowest scores for seven of the 12 tested skills, whereas the midfielders outperformed the other positional groups in six of the 12 skills. From these results it can be concluded that positional demands and differences should be taken into consideration when developing and implementing an MST programme for field hockey players.

P3.26

The Investigation of Mental Skills on Elite Athletes in Taiwan.

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Yu-Kai Chang (National Taiwan Sport University, Taiwan)

Shih-Chung Cheng (National Taiwan Sport University, Taiwan)

Chun-Chih Wang (National Taiwan Sport University, Taiwan)

Previous research indicates that the status of mental skills is recognized as a main factor of psychological abilities for elite athletes; however, no study has targeted elite athletes in Taiwan. Therefore, the purpose of the present study is to examine the status of mental skills for the elite athletes. Additionally, mental skills in terms of the different demographics of the athletes were also examined. 289 elite athletes with 12 sport teams were recruited. These athletes were trained in the 2009 National Taiwan Training Central, the top sport-related training center in Taiwan. The athletes were requested to complete two questionnaires including demographic sheets and the Athletic Coping Skills Inventory-28 (ACSI-28). The independent t -test and one-way ANOVA were computed for the differences of ACSI-28 based upon athletic variables. The results indicated that: a) for gender, compared to female, males have significantly higher scores in concentration, goal setting, peaking under pressure, and achievement motivation; b) training years, coachability, concentration, peaking under pressure, and achievement motivation showed significant difference, where training years for those over 12 yrs had higher scores compared to the rest of the age categories (1-3yrs, 4-6 yrs, 7-9yrs, 10-12yrs); c) for international achievement, except goal setting, six of the other mental skills reached significant difference, where athletes who won the top 3 places in the Olympic and Asia Games have higher scores than those who did not win top 3 honors or participated in East Asia; d) for national achievement, only concentration, goal



setting, peaking under pressure, and achievement motivation reached significant levels of difference, in which athletes who won the top 3 awards in the National Game and the National Population Game have higher scores than the ones who did not win the top 3 sports in the Games or only won top 3 in the regional or specific sport competitions. In conclusion, the present study confirms that athletes with better achievements have higher mental skills among the elite athletes in Taiwan; however, the mental skills might be able to be influenced by an athlete's demographic status.

P3.27

The effects of different feedback training protocols on rifle shooting performance among novice shooters.

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Ruiz Montse (University of Jyväskylä, Finland)

Pihlaja Tuomo (Research Institute for Olympic Sports (KIHU), Finland)

Psychomotor performance of novice shooters has been indicated to improve through augmented feedback training. However, variations in the structure of feedback training conditions has not been widely investigated issue. The purpose of this study was to examine if focusing on separate shooting skill components facilitates the learning process to a greater extent than practicing the skill as a whole.

Participants of this study ($n=36$) were randomly assigned into three experimental groups. The groups accomplished a 12-session feedback training period with shooting tests before, and 3 and 18 days after the training period. During acquisition, the groups focused on a) rifle shooting skill components (hold, aiming, triggering) separately within each single training session, b) one skill component at a time in 4-session sets each, or c) all three skill components simultaneously during each training session. Learning effects were controlled with shooting accuracy, and vertical and horizontal deviation of aiming point.

The results of GLM (repeated measures) revealed significant main effect for session in shooting accuracy ($F=(2,62)37.2, p=.000$), and vertical ($F=(2,62)28.6, p=.000$) and horizontal deviations ($F=(2,62)22.3, p=.000$) of aiming point. No significant group*session interaction was found either in shooting score or aiming point deviations.

The results suggested that novice shooter's performance can be improved both by training skill components separately in parts and together as a whole. Although the groups did not differ from each other, there were found some indications that training skill components separately might promote more consistent performance than focusing on all the components simultaneously.

P3.28

Psychological Skills And Game Efficacy With Basketball Players.

Tatiana Lancheva (National Sports Academy, Sofia, Bulgaria)

Venzislav Jordanov (National Sports Academy, Sofia, Bulgaria)

In recent decades it is becoming ever more popular for coaches, competitors and psychologists, working in the area of elite sport to discuss and gather around the idea that in order to achieve a peak in their career and maximum competitive realization there are certain psychological skills that are absolutely necessary to obtain; skills that build the so-called "competativeness" so vital for the athlete. This gives some authors the notion to lay the problem of the so-called "psychological talent" of the sportsman (Blood, 1985; Gould, Dieffenbach, & Moffett, 2001). Deducing the psychological characteristics of some of the most successful and some not so much, but still elite athletes, some authors (Hardy, Jones, & Gould, 1996, Williams & Krane, 2001) put up the question as to how these skills can be developed in the process of training. In order to be guided towards actual accomplishments, the competitor has to obtain certain psychological qualities and skills and this must be done in a supportive environment.

...In this report we have a theoretical model of the psychological skills which the competitor must develop so that he may reach his maximum game efficiency. They are closely connected with the conducted empiric research - tactical skills, sport confidence, "I" effectiveness, collective effectiveness, competitive anxiety and attention control.

...The subjects of the research are 120 basketball players with different levels of qualification from 14 teams—8 male, 6 female, at an age between 14 and 36.

...We closely analyzed the links between the psychological skillfulness of the competitors and the game



efficacy, sporting results, level of qualification, length of service in the field of the sports industry, the preceding background in sports and gender.

...The results from this research provoked us to make a list of certain qualities that define the psychological profile of a successful basketball player, as well as a list of other ones that stand in the way of a successful realization.

...Having the results and the newly found links between the researched indicators in mind, we worked out some basic ways for developing a model for training these psychological skills in the field of elite sport.

P3.29

Psychological preparation of a pistol shooter for the Olympic Games 2008.

Tomas Gursky (Top-Fit, Slovakia)

This article describes the psychological preparation of a pistol shooter who worked together with his coach, sparring-partner and a psychologist in a small team prior to the Olympic Games in Beijing 2008. The shooter qualified himself for the OG a year before and he prepared himself to compete at the OG in two disciplines (10m Air pistol and 50m Pistol - Men) scheduled in a time span of 4 days. The personal coach asked a sport psychologist to prepare and achieve psychological preparation lasting 5 months under the following conditions: (a) the psychologist definitely will not partake at the OG in Beijing, (b) the coach is supposed to be either a member of an official Slovak Olympic expedition or a supportive person only, (c) to prepare a shooter and his coach to cope with various stresses such as a high level of competition, media pressure, climate and environmental factors, jet-lag, etc, during the OG. The psychological approach was team-oriented aiming to gradually delegate psychological responsibilities to a coach and focusing selectively on mental issues which were estimated as unsatisfactory (or as mental weaknesses) in relation to their OG goal, namely to qualify himself to a final part of a competition in one of his disciplines.

P3.30

Relationship Between Physical Activity And States Of Adolescents Mood.

Alexandro Andrade (Santa Catarina State University, Brazil)

Ricardo Brandt (Santa Catarina State University, Brazil)

Thiago Sousa Matias (Santa Catarina State University, Brazil)

Maick da Silveira Viana (Santa Catarina State University, Brazil)

Daniela S. Coelho (Santa Catarina State University, Brazil)

The aim of this study was to investigate the relationship between physical activity and the mood states of adolescents. The study population consisted of adolescents aged 14 to 19 years old, students from public high school in the city of Florianópolis/SC, Brazil. The 475 adolescents in the sample were selected in a non-probabilistic by convenience. The mood states were investigated using a Brunel Mood Scale (BRUMS), validated in Brazil by Rohlf's (2006). The socioeconomic status was evaluated using the criteria of the Brazilian Association of Research's Firms. The practice of physical exercises in the study was measured by the Questionnaire of Physical Activity of Adolescents (Florindo et al., 2006). The data were treated with descriptive and inferential statistics. The level of significance was $p < 0.05$. The results showed evidence of the association between physical activity levels and positive mood. The adolescents present average similar of age. Most of the adolescents is considered white and predominant economical classes are B1 and B2. Boys present more active behavior than the girls ($p < 0.001$). Girls present total humor larger than the boys ($p < 0.01$), larger levels in all the negative variables. Concluding, the more adolescent practice physical activities, better is your mood state.

P3.31

Passion for athlete and the effect on subjective well-being: The mediating role of positive emotion.

Wenshin Chang (National Taiwan Normal University, Taiwan)

Szuyu Chen (National Taiwan Normal University, Taiwan)

Luling Chen (National Taiwan Normal University, Taiwan)

The present research used the Dualistic Model of Passion (Vallerand et al., 2003) to examine the effect on the



subjective well-being from athlete's aspect. Moreover, in this study we were interested in understanding the mediating role of positive emotion between athlete's passion and subjective well-being. The participants were 237 athletes from collegiate team (154 males, 83 females) recruited from three different colleges in Taipei. The average age was 20.06 years old. With the participants' agreement, they completed self-administered questionnaires independently to indicate their level of passion, positive emotion and subjective well-being. There were two main results from this study. First, there was a positive correlation among harmonious passion, obsessive passion, positive emotion and subjective well-being, and there was a higher correlation between the two passions. Second, both passions can positively predict positive emotion and subjective well-being independently; furthermore, the effects between passion and subjective well-being were fully mediated by positive emotions. Most findings in this study are coincident with previous researches, only the positive relationship between obsessive passion and positive emotion is different from some previous researches. Present research also revealed part of the coincidence of the aspect of passion from both coach and athlete. And since the two passions are highly related, it is not surprisingly that obsessive passion may also positively predict the positive emotion and subjective well-being. Future research directions should examine the above-mentioned relationship from coach-athlete dyad aspect.

P3.32

Progressive muscle relaxation training, physiological parameters and mood state.

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Jacek Przybylski (Institute of Psychology, University of Gdansk, Poland)

The aim of the present research is to explore the role of progressive muscle relaxation from the perspective of the physiological indices and mood state. The relation between biofeedback (emWave), heart rate and mood state were taken into account.

All participants of the studies took part in the progressive muscle relaxation training classes consisted of 15 hours. They were asked to fill in the questionnaire: D.M. McNair, M. Lorr and L.F. Droppleman – Profile of Mood States (POMS). Each person underwent the biofeedback twice - during relaxation (long session) and second one (short session – 4 minutes) after the last training. Apart from that all participants were asked to measure their heart rate before and after each session. The Authors' goal was to analyze the influence of the progressive muscle relaxation training on the physiological indices and mood state.

Results will be discussed during presentation.

P3.33

Emotions on the sportsmen's faces. Does every winner look like the winner?

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Natalia Puksza Warsaw (School of Social Science and Humanities, Poland)

Emotions are present in everyone's everyday life. An excitation transfer can provoke the augmentation of emotions intensity. Indeed, the excitation transfer results in the accumulation of excitation, which may derive from many different stimuli. Consequently, emotions, in general, seen on a face, can boost. It can be assumed that if a sportsman gets numerous stimuli during a tournament while making a physical effort, his/her facial emotion expression should augment. At the finish line a sportsfan might be able to see an explicit and intense emotion.

Presumably, this process can take place in every sport discipline.

In case of both, the swimmers and the runners, the intensive effort may boost the expression of positive emotions. The results of analysis have confirmed these assumptions. According to interviewees, the swimmers and athletes, who passed a long distance, have expressed more negative expressions. On the other hand, the sprinters in the same situation, have expressed more positive emotions. What is more, the interviewees have put the competitors who passed a short distance on the higher positions than those who passed a long distance.



P3.34

The English Channel crossing: Unique evidence on emotional states before and during the event.

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Antonis Hatzigeorgiadis (University of Thessaly, Greece)

Georgios Ioannis Tsianos (NHS Highland, Belford Hospital, Scotland)

The crossing of the English Channel is among the toughest sporting challenges both physically and mentally. The purpose of the present study was to examine fluctuations in emotional responses before and during the event. Participants were six English Channel relay swimmers (3 male and 3 female) who attempted to swim a total of 46 miles (England-France-England) in consecutive one-hour legs for each swimmer in repeating sequence. The data collection took place over five time points; one week before, one day before, one hour before, before the 1st attempt, and before the 2nd attempt. Participants completed the Positive Affect Negative Affect Schedule (PANAS), the Competitive State Anxiety Inventory-2, and a questionnaire assessing self-efficacy regarding the completion of the event. In addition, participants were interviewed after the completion of the event. Generally the results showed that one week before the event positive emotions were high and remained high for up to one hour before the attempt, while at the same period negative emotions were relatively low. Just before the first leg, and even more just before the second leg, negative emotions increased and positive emotions decreased considerably. Self-efficacy followed the pattern of positive emotions, whereas anxiety remained relatively stable at moderate levels throughout. The English Channel crossing is an extremely demanding event, a tough decision to take and a hard goal to accomplish. Apart from the physical training swimmers should be mentally prepared to cope with extreme environmental conditions and psychological stress.

P3.35

Acute effects of exercise on mood in male obese adolescents.

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Tatiana Acioli Lins (University of Pernambuco, Brazil)

Humberto José Gomes Silva (University of Pernambuco Brazil)

Sandra Lopes de Souza (Federal University of Pernambuco Brazil)

Moacir de Novaes de Lima Ferreira (University of Pernambuco, Brazil)

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The treatment of adolescent obesity is classically based on three approaches - increased physical activity, improved diet, and lifestyle changes. Nowadays, several researches have focus on the effects of exercise intensity on weight management; however, its effects on mood state remain to be elucidated. The aim of this study was to verify the acute effects of different exercise intensities on mood state in obese adolescents. The sample was composed by eight male obese adolescents (age 15.37 ± 2.08 and BMI $33.44 \pm 4.70 \text{ kg/m}^2$) involved in a therapy to obesity control. Each individual underwent three experimental trials (crossover - on 2 separate days): 1) control, subjects remained seated for 30 min; 2) low exercise intensity (10% below ventilator threshold); 3) high exercise intensity (10% above ventilator threshold). Each subject serves as his own control. For the exercise trials energy expenditure was set at 350 kcal, estimated by indirect calorimetry. Validated self-report questionnaires were used to assess symptoms of anxiety Trait/State (STAI) and mood (POMS), before and immediately after each trial. Data were analyzed by means of scores and delta percent; comparisons were made by ANOVA for repeated measures, and Duncan's test as post-hoc. As expected, in response to high exercise intensity the adolescents presented lower vigor and higher fatigue than after control ($p < .02$) and low intensity ($P < .01$). An increase in anxiety state scores was verified in response to low (6.62%) and high (18.62%) exercise intensities. In conclusion, in obese adolescents, the acute effects exercise on anxiety and mood state is dependent of intensity.



P3.36

Physical activity in relation to affective states, labor anxiety and a sense of control over labor pain in pregnant women.

Monika Guskowska (Jozef Pilsudski University of Physical Education, Poland)

Aim:

The aim of the study was to compare pregnant women pursuing physical activity with those inactive during pregnancy for their affective states and anxiety in the situation of visualized labor.

Methods:

Participants in the study were 203 women aged 19 to 38 years, in the second or third trimester of uncomplicated pregnancy. The active subgroup (n=117) consisted of pregnant women exercising systematically at least twice a week, while the inactive group (n=86) included those who never participated in any form of physical exercise during pregnancy. The following standard psychological instruments were used: the Profile of Mood States (POMS) by McNair, Lorr & Droppleman, the UWIST Mood Adjective Checklist (UMACL) by Matthews, Chamberlain & Jones, the State-Trait Anxiety Inventory (STAI) by Spielberger et al. (the trait anxiety subscale), as well as the state anxiety subscale of the STAI modified for the purposes of this study.

Results:

Physically active pregnant women were characterized by a better mood, lower anxiety when visualizing labor, and stronger sense of control over labor pain. State anxiety associated with labor was predicted by negative affective states, age, and trimester of pregnancy. Emotional states and mood dimensions could be predicted mostly by the trait anxiety level.

Conclusions:

Interpretation of the results is difficult since there were significant intergroup differences in trait anxiety levels. Nevertheless, the findings confirm a beneficial role of physical activity as a factor improving pregnant women's quality of life.

P3.37

Stress, emotions and coping strategies in competition situations: A study with Taekwondo athletes.

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Heitor Lopes (University of Minho, Portugal)

A. Rui Gomes (School of Psychology, University of Minho, Portugal)

Stressful situations, like sports competition, can evoke a significant broad of emotions (Hanin, 2000; Lazarus, 2000) and coping strategies (Crocker, 1992).

This study analyses emotions and coping strategies used by 41 Taekwondo athletes (16 Females and 25 Males with ages ranged from 13 to 35, $M=18.9$, $SD=5.65$) before an important international competition. They were all representing the National team. Before day one of competition, athletes filled the following questionnaires: Goals for the Competition and Global Level of Stress (GCGLS) (Gomes, 2009), Sport Emotion Questionnaire (SEQ) (Jones et al., 2005), Revised Sport Specific COPE (MCOPE) (Crocker & Graham, 1995) and the Coping Effectiveness (CE) (Gomes, 2008). Athletes described their goals for the first combat; then, they had to think how they would feel (SEQ) right before the first combat, and the level of stress (GCGLS), coping strategies (MCOPE) and coping efficacy (CE) they would use if they not achieve the established goal. Results pointed out that the most prevalent emotions before competing were positive (e.g., happiness and excitement) followed by negative ones (anxiety, anger and dejection). Not achieving their goals caused significant stress levels ($M=3.37$, $SD=.80$; Maximum score was 5) and the coping strategies used to deal with this situation were mainly problem-focused (e.g., active coping, planning); emotion focused strategies were the least used (e.g., denial, turning to religion). The perception of coping efficacy was significant ($M=7.55$, $SD=1.36$; out of a Maximum score of 10). Results showed that athletes used a positive adaptation pattern when confronted with an important event.



P3.38

A measuring instrument for self-efficacy in high performance soccer players: construction and evidence of validity.

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Roberto Moraes Cruz (Universidade Federal De Santa Catarina, Brazil)

Success in high performance sport is typically associated with a combination of factors, including developed physical skills, performance capability (verified through training and participation in competitions), as well as psychological factors including self-efficacy. Self-efficacy is defined as an individual adaptive ability to search and reach specific targets, playing a central role in regulating motivation, the sense of perspective and opportunities, self-determination and outcome. The aim of this study was to design and verify the validity of an instrument to measure self-efficacy for high-performance Brazilian soccer athletes. The measurement instrument was based on three fundamental assumptions: a) self-efficacy reflects the degree of certainty and conviction that one is able to successfully perform a certain activity, b) self-efficacy is a predictive factor in the field of individual performance. c) self-efficacy plays an important role in the technical, tactical, physical and psychological dimensions of the athlete's sports performance. 130 athletes from two first-division professional Brazilian soccer clubs participated in the research. The instrument was built based on a specialized literature review and was submitted to a pilot study (10) and an empirical study (120). The preliminary results indicated an agreement between judges of above 0.75, good internal consistency ($\alpha = 0.91$) and validity evidence related to the success expectations in soccer.

P3.39

Representative design of passing drills in futsal practices.

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Duarte Araújo (Faculty of Human Kinetics, Portugal)

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The similarity between athletes' behavior during experimental tasks and performance settings should be assessed to provide measures of representative design (Araújo et al., 2007). The aim of this study was to provide a measure of representativeness for passing drills in futsal practices. Two groups of four male futsal players (26.25 ± 4.33 yrs) with two balls each were positioned in two squares (5x5m). The ball carriers' passing direction was manipulated in four ways: i) pass to the player in front; ii) to the player diagonally opposite; iii) to the player in front or to the player opposite (if he had not ball possession); iv) to any player since he had not ball possession. Ball motion trajectories in practice and in an actual match sample were captured and digitized (see Duarte et al, 2010). Ball velocities were submitted to ApEnRatio Random analysis (Fonseca et al., 2009) to establish performance regularity. Mean ApEn values increased from the 1st to 4th passing condition, approaching values observed in matches (1st: 0.28 ± 0.028 , 2nd: 0.31 ± 0.04 , 3rd: 0.36 ± 0.02 , 4th: 0.42 ± 0.04 , actual match: 0.42 ± 0.03). Repeated measures ANOVA revealed significant differences between all the three first conditions and: i) the 4th condition; ii) the actual match condition. No differences were found between the 4th and match conditions. Results suggested that regularity of ball velocity might be a reliable measure of representative design. By increasing the number of opportunities to pass, the irregularity of ball velocity also increased, indicating that players are constrained to perceive opportunities to act as in the performance settings.

P3.40

Life after being released. Exploring the experience of former football academy players released from their first professional contract.

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James Lowther (University of Ulster, UK)

The normative and non-normative transitions experienced by athletes are widely acknowledged (Wylleman & Lavallee, 2004), but whilst significant research has examined the retirement transition, only limited research has



investigated the qualitative experience of young athletes at premature retirement (e.g. Lavalley & Robinson, 2007; in gymnastics). This research suggests that such athletes can face considerable difficulties adjusting to their loss of athletic identity. Athletes dropped from football academies in the United Kingdom may face similar problems adjusting to the transition and the loss of their status as a promising future player, and thus the psychological impact within football requires exploration.

In depth semi-structured interviews will be conducted using Wylleman and Lavalley's (2004) developmental model as a guide. An initial sample of three former academy football players will be identified through purposive sampling. Theoretical sampling (Glaser & Strauss, 1967) will subsequently be used to select further participants. The inclusion criteria will require that the participants have previously participated in a premier league or championship club youth football academy in the United Kingdom. Participants will have experienced involuntary release from their academy for performance related reasons. Interviews will be transcribed verbatim and analysed using inductive content analysis to explore the participants' experience of their involuntary transition and the impact upon their psychological well-being. The research will aim to highlight the potential psychological and psychosocial issues faced by such athletes, and to inform the practice of sport psychologists and coaches working within football academies.

P3.41

Soccer context parameters: Characterization of the microsystem in athletes from different sport career phases from Paraná/BR.

Joao Ricardo Nickenig Vissoci (Ingá College, Brazil)

Lenamar Fiorese Vieira (Maringa State University, Brazil)

Leonado Pestillo de Oliveira (Maringa College Center, Brazil)

The objective of this study was to characterize Bronfenbrenner's (1992) ecological microsystem in different sport career phases. 30 male soccer athletes with ages ranging from 12 to 18 years participated in the study, answering a semi-structured interview. Data collection was performed in soccer formation schools from a first division Brazilian soccer team, in meetings scheduled with the coaches. Data were analyzed through content analysis with categorical type. Results evidenced that for athletes in experimentation and specialization phases, activity patterns are connected to the soccer practice in the sport schools and other sports are practiced in academic school and play times with friends. As for investment phase athletes, molar activities were restricted to soccer practice, but with professional emphasis. Personal relationships showed differentiations between athletic career phases. In experimentation phase main social peers were family members and friends, for specialization and investment athletes a restriction of friendships to the soccer context was observed, as well as family and sport professional as main peers. As for the roles athletes adopted, a variety was observed in experimentation athletes, getting restricted to the athlete role on the other career development phases. So it is concluded that sport environment was characterized as restricted in relation to activities performed through the sport career; interpersonal relationships focus was directed to the sport context and the roles one adopted were varied in the experimentation phase but were diminished and got restricted to the athletes' role in the investment phase.

P3.42

Analysis Of The Level Of Satisfaction And Characteristics Of Perfectionism Of Futsal Athletes Of The State of Parana-Brazil.

José Roberto Andrade do Nascimento Júnior (Universidade Estadual de Maringá, Brazil)

José Luiz Lopes Vieira (Universidade Estadual de Maringá, Brazil)

Lenamar Fiorese Vieira (Universidade Estadual de Maringá, Brazil)

This study aimed to investigate the association between the level of satisfaction and characteristics of perfectionism adult indoor soccer teams. The subjects were 58 male athletes of Parana's Futsal Championship - Gold Key. The instruments used were the Athlete Satisfaction Questionnaire and the Multidimensional Perfectionism Scale. For data analysis, it was used the Kolmogorov-Smirnov test, Anova for repeated measures, Post Hoc of Scheffe, Cronbach's alpha and the Fisher exact test ($p < 0,05$). The results showed that athletes had lower satisfaction with the "Team Performance" ($Md=3,7$) to the detriment of other dimensions of athletes' satisfaction ($p < 0,05$), demonstrating the focus of the athletes to the objectives and goals of the team; it was found that the athletes have proven more perfectionists with the "Organization" ($Md=4,0$) and "Patterns of Personal Achievement" ($Md=3,8$) over the "Parental Criticism" ($Md=1,8$) ($p < 0,05$); it was noted that the



athletes had a high "Adjusted Index of Perfectionism" ($Md=50,0$) and a low "Index of Perfectionism Misfit" ($Md=40,0$), demonstrating that these athletes have strong organizational skills and high patterns of personal achievement, a factor that may be relevant in the pursuit of sporting success; there was no association between the tendency of adjusted and misfit perfectionism with the athletes' satisfaction ($p>0,05$), indicating that characteristic is not an intervening factor in the satisfaction of the athletes. It was concluded that the characteristics of perfectionism are not elements involved in the satisfaction level of the athletes of futsal teams.

P3.43

The effects of changes load of exercise on mental depression and fatigue in male soccer players.

Pejman Taghibeikzadeh Badr (Azad University, Iran)

The purpose of this study was to assess the effects of 4weeks increasing load of exercise (resistance-endurance) and 1week taper phase on mental depression and fatigue in male soccer players. Fifty male's soccer players who participated in soccer national soccer league were selected as subjects in this study. Mood parameters had been taken before training phase, end of 4weeks and end of taper phase in resting states. For evaluation of mood state used by questionnaire mood state (BRUMS). For analysis of data used by repeated measure (ANOVA). After increasing load of exercise on Tension, Depression, Anger, Vigor, Fatigue and Confusion did not changed significantly, but after time of taper phase mental depression and fatigue decrease significantly. Increases in fatigue and decreases in vigor have been described in early overreaching phases, and enhanced depression has been observed in later overtraining states, result of this study suggest that 4weeks increasing load of exercise don't cause of given over reaching phases. The results this study observation that taper phase have positive effect on mental fatigue and depression. According these results we suggest that between elements of mood state, depression and fatigue on changes of exercise more sensitive.

P3.44

Body Related Perceptions as a Predictor of Dispositional Flow State.

Gaye Erkmén (Middle East Technical University Social Sciences, Turkey)

Ezgi Zengin (Middle East Technical University, Turkey),

F. Hulya Ascý (Baþkent University, Turkey)

The purpose of this study was to investigate whether the dispositional flow state of exercise participants are predicted by body related perceptions (social physique anxiety and physical self). The sample of the study consists of 345 (148 female, 197 male) exercise participants who exercised more than six months in university sport centers. Exercise participants were from fitness, pilates, body building, swimming, team sports (korfbal, basketball, football, underwater hockey), walking, yoga, and capoeira, and dance. In this study, there were one criterion variable with 9 subscales and 4 predictors. Dispositional Flow Questionnaire with 9 subscales (Jackson, & Eklund, 2004) was administered to evaluate the flow experiences of participants. Social Physique Anxiety Scale (Hart, Leary, & Rejeski, 1989) and three subscales (perceived body fat, appearance, and physical self-worth) of Physical Self-Description Questionnaire (Marsh et al., 1994) were used to assess body related perceptions. According to hierarchical multiple regression analyses, models were significant and explained variances changed from 4% to 24%. Results for first block indicated that, perceived social physique anxiety negatively predicted seven of the flow subscales explaining 2-7 per cent of variance. In block 2, the combination of these three predictors (perceived body fat, perceived appearance, and perceived general physical self-worth) accounted for 9 subscales of flow after controlling for the effects of social physique anxiety explaining 4-24 per cent of variance. In both models, perceived general physical self-worth and perceived appearance were the best predictors. In conclusion, finding supported the assertion that body related perceptions were related with dispositional flow.



P3.45

Evaluation Of The Desire For Bodybuilding By Figure Scales. Review.

José Ignacio Baile Ayensa (Universidad a Distancia de Madrid. UDIMA, Spain)

Constanza Pujals (Universidad Autónoma de Madrid, Spain)

Pablo Jodra (Universidad Alfonso X El Sabio, Spain)

Introduction:

The desire for bodybuilding is one of the variables that has been considered to be crucial in the evaluation of men's body image, however there are not many available techniques to measure it. The majority of the techniques employed in the evaluation of men's body image are adaptations of techniques used with women, but which fundamentally explore desire for thinness.

Method:

It has been revised different techniques of evaluation of body image in men using scales of figures published in the last two decades.

Results:

There are very few specifically designed scales to evaluate body image in men, and only very concrete ones take into consideration the variable of desire for bodybuilding.

Conclusions:

It is necessary to consider that an evaluation of body image in men must include the variable of bodybuilding and not only the desire for thinness, because otherwise, we can come to the erroneous conclusion that men do not have dissatisfaction with their image.

P3.46

Relationship of body satisfaction with the practice of physical activity, BMI and the reasons to practice.

Juan Gregorio Fernandez Bustos (University of Castilla La Mancha, Spain)

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Jorge Abellán Hernández (University of Castilla La Mancha, Spain)

Ricardo Cuevas Campos (University of Castilla La Mancha, Spain)

The aim of this study is to analyze the association between body satisfaction, BMI, physical activity and reasons which motivate it. Special consideration at differences between gender. Three questionnaires (Body Shape Questionnaire, Scale for assessment of body image of Gardner and Motives of practicing Sport Questionnaire) were administered to 652 teenagers (296 males, 356 females). Results show more men than women are satisfied with their bodies, BMI confers a negative association, while physical activity is only associated with a positive body image in males. Additionally, the study reveals that among women who practice physical activity for aesthetic reasons there was a greater dissatisfaction with their bodies. All this suggests that the lack of a relationship between physical activity and body satisfaction in women could be explained by a greater concern for body image and because many women do physical activity for aesthetic reasons.

P3.47

The relationships among sport type, context and body image of female athletes.

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Judy Van Raalte (Springfield College, United States)

Britt Brewer (Springfield College, United States)

Allen Cornelius (Springfield College, United States)

Research suggests that involvement in sport enhances body image (Hausenblas & Downs, 2001; Robinson & Ferraro, 2004). However, athletes involved in certain sports, such as gymnastics and distance running, are at elevated risk for body image disturbances (Hulley & Hill, 1999; Petrie, 1996). The purpose of the research was to address this apparent paradox by examining the body image of female athletes in sport and social contexts. Intercollegiate female distance runners (n = 21) and throwers (n = 18) completed a demographic



questionnaire and several measures of body image including the Body Image Rating Scale (BIRS; Fallon & Rozin, 1985), the Body Image States Scale (BISS; Cash, 2002), the Multidimensional Body Self-Relations Questionnaire- Appearance Scale (MBSRQ-AS; Brown, Cash, & Mikulka, 1990; Cash, 2000b), and Body Form Imaging (BFI; Sands & Maschette, 1999). Results indicated that distance runners had more favorable body image than throwers. However, when looking at body image with attention paid to context, a significant interaction was found on the Body Form Imaging and the Body Image Rating Scale. In a sport context, distance runners had more negative body image than did throwers but in a social context distance runners reported a more favorable body image than throwers. When comparing within sports, distance runners perceived their bodies more favorably in a social context than in a sport context. In contrast, throwers perceived their bodies more favorably in a sport context than in a social context. The results suggest that the relationship between sport participation and body image is complex and affected by person and contextual variables.

P3.48

Self-concept, motor ability and physical activity of adolescents in cultural contexts.

Marie-Christine Wehrmann (University of Muenster, Institute of Sport Science, Germany)

Maike Tietjens (University of Muenster/ Institute of Sport Science, Germany)

Bernd Strauss (University of Muenster / Institute of Sport Science, Germany)

The development of physical activity (pa) lifestyle takes place in the context of culture. In industrial nations such as Germany sport takes place in organized structures. Leisure time pa has strongly been decreasing (WHO, 2004). In the Nigerian culture, however, leisure time pa are strongly anchored. By participating in leisure time pa more facets of the self-concept and motor ability could be addressed than in the participation in organized sports. So far there hasn't been any research in cross-cultural studies comparing the self-concept, motor ability and pa.

In a pilot study in 2009 Nigerian ($n=170$) adolescents report a high self-concept ($M=4.76$, $SD=.78$ to $M= 5.67$, $SD=.55$), a high level of pa ($M=18.85$ h/week, $SD=3.37$) and a high level of motor ability ($M=106.16$, $SD=6.20$). The regression analysis shows that the physical ability, the physical appearance and the pa contribute significantly to the explanation of the self-concept ($R^2=.461$, $p < .05$). Significant gender differences in the self concept and pa level as found in other studies (interalia Burrmann, 2004) can't be verified.

The aim of the main study is to explore the role of pa for the self-concept and motor ability in a cross-cultural context. Data are collected from Nigerian $n=350$ and German $n=348$ pupils. SDQ II, PSDQ are used to test the self-concept, pa is measured by a self report questionnaire. The DMT 6-18 (Bös, et al. 2009) assesses the motor ability. Supplementary cognitive skills are measured. The data collection is completed in March 2011.

P3.49

On the functionality of a veridical self-concept.

Mirko Schmidt (Institute of Sport Science, University of Berne, Switzerland)

In many settings across different disciplines of psychology such as health, sport, educational, and social psychology a positive self-concept is valued as a desirable outcome (Marsh, Papaioannou, & Theodorakis, 2006). Besides the assumption of the functionality of a high self-concept, a second set target has to be focused on, namely the veridicality of self-perceptions. Veridicality, which is the reality-relatedness of one's self-perceptions, is considered to be a functional characteristic in numerous studies: It has been reported that an underestimation of physical abilities can hinder performance and leads to inadequate task choice, while an overestimation can lead to risk behaviour or alienation from important social interaction partners. The present article reports on a cross-sectional study, testing the hypothesis that a veridical self-concept concerning global self-esteem is more functional than a high, but inflated one.

The sample comprised 438 children (210 girls; mean age = 11.9) from 23 elementary school classes. To build the independent variable perceived and actual physical competence were assessed. Children's self-esteem was the dependent variable.

On average, children who slightly overrated their physical competences had a higher self-esteem ($M = 3.51$, $SE = .48$) than children who seriously overrated themselves ($M = 3.26$, $SE = .56$). This difference was significant ($t(101) = 2.00$, $p < .05$) and represents a small-sized effect $d = .49$. Thus, not only the level of the self-concept, but also its veridicality, should be considered, for example, in interventions promoting a healthy self-concept.



P3.50

Impact of Sport Activities on the Body-Concept of Handicapped Women and Men.

Reinhild Kemper (Friedrich-Schiller-University Jena, Germany)

Introduction:

According to Mummendey (2006), the body concept is a concretely experienced part of a person and assumes a central dimension for her/his identity. Accordingly, the present study examines the effects of sport activities on the development of the body concept of handicapped persons.

Method:

In terms of qualitative research a problem-centered focused interview was conducted with a group of 24 participants with bodily and sensory handicaps (12 females, 12 males). 7 female and 7 male athletes had pursued a professional sport career. The age range for the participants reached from 24 to 57 years.

Results:

All participants had experienced phases of dissatisfaction with their bodies in their developments. The primary causes for this discontent had been the limited physical ability and the anticipated lack of acceptance by the public. Female athletes had severely suffered from the discrepancy of the ideal of a beautiful woman. For the late disabled participants, the comparison of their bodies prior and after an accident or illness had had a negative influence on their body concept. For all athletes sport participation was associated with an increase in self-confidence, satisfaction with their body functions and acceptance among non-handicapped people.

Conclusion:

There is a need for wide-ranging support for the psychosocial effects of sport activity on the development of the body concept of handicapped individuals. An expansion of sport participation opportunities and thus further fulfillment of the convention for handicapped persons is necessary.

P3.51

Effectiveness of Social Support in the Return-to-Competition Process of Injured Athletes.

Atsushi Suzuki (University of Tsukuba, Japan)

For athletes who have been injured, social support, as well as their acceptance of their injury, plays a major role in their commitment to rehabilitation. To effectively utilize social support, it is critical to ascertain its relationship with acceptance of injury. Based on an interview survey of three injured athletes and a secondary source of one athlete, the present study aimed to investigate the types of social support which influence injury acceptance, as well as the impact of social support on injured athletes' internal changes as they progress towards injury acceptance. Three of the subjects each underwent a 40–60 minute-long semi-structured interview.

The study results indicate that social support promotes injury acceptance by fostering self-awareness, reevaluation of competitive activities, and broadening of viewpoints. In addition, it was observed that the presence of social support directly impacted injury acceptance. Emotional stability, which varied by individual, was attained through emotional support received during the early phase of rehabilitation

Further, evaluative support offered by physicians and trainers appeared to provide an opportunity for heightened self-awareness, eventually allowing the athletes to develop temporal perspectives. Emotional support offered by teammates and team staff helped to broaden viewpoints, which in turn strengthened the sense of unity with the affiliated athletic club. Internal changes characterized by increased emotional stability, temporal perspectives, sense of unity with the affiliated athletic club, self-awareness, and reevaluation of competitive activities resulted in detachment coping. Thus, the study ascertained that each type of social support has an effect in promoting injury acceptance.



P3.52

The reflective practitioner: An examination of the development of reflective approaches to practice and professional development.

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Sheldon Hanton (UWIC, UK)

Andy Miles (UWIC, UK)

Ailsa Niven (Heriot Watt, UK)

Although reflective practice has gained credence in recent years within the field of applied sport psychology (ASP), little is understood about the way in which consultants develop the complex, cognitive skills associated with becoming a reflective practitioner. In attempts to further understanding of the personal, social, and situational factors that may influence the way in which sport psychologists develop the ability to reflect on their practice, a qualitative, semi-structured interview approach was adopted in the present study. Accredited (BASES) and Chartered (BPS) practitioners ($n = 8$) were purposively selected to participate based on the professional training they had received, the CPD they had engaged in, and their use of reflective practice. The results indicated that the participants' reflective abilities benefited from a number of both formal and informal learning opportunities. Participants specifically reported the importance of: (a) being formally educated in reflective practice; (b) utilizing a structured reflective framework during initial engagement; (c) continued mentoring support; (d) receiving written feedback on the content and process of personal reflections; and (e) learning from experience. The findings have the potential to direct developments ASP education and training programs, as well as informing individual practitioners about the most effective approaches to enhancing skills in reflection.

P3.53

Toward a Competency-Based Understanding of the Training and Development of Applied Sport Psychologists.

David Fletcher (Loughborough University, UK)

Joanne Maher (Loughborough College, UK)

The issue of competence is not new to practicing psychologists who strive to operate effectively within their professional boundaries. Competence is an ethical requirement of applied sport psychologists and a modern pilgrimage for all psychologists, however how it is assessed within the training and development of practitioners within sport remains unclear. The notion of competence will be introduced to applied sport psychology practitioners via the review, synthesis and transfer of the competence literature in the broader field of professional psychology. Whilst the applied sport psychology literature has tended to overlook the notion of competence, it has addressed the closely related area of effective practice in service delivery, which will be reviewed in order to provide a background to the discussion of competence. Competence literature from professional psychology is pooled to highlight the main issues pertinent to practice in the sport domain, particularly in relation to competence assessment and stages of professional development. Furthermore, the dynamic nature of competence along with definitional and conceptual difficulties is also discussed. Finally, the transfer of professional competence knowledge into recommendations for the training and development of applied sport psychologists extends from professional psychology literature into sport. Increased collaboration across psychology is called for in order to advance the field and apply recommendations made. If applied sport psychology is to be truly accountable it must gain a better understanding of competence and its implications for the training and development of practitioners.

P3.54

Convergencies Between Military and Sport Psychology. A Preliminary Study.

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Roberto Ruiz Barquin (Universidad Autónoma de Madrid, Spain)

Alicia Romero (Universidad Diego Portales, Chile)

This analytic and review paper exhibits published and scientific research regarding outstanding convergencies and divergencies of psychological variables between Sport and Military Psychology. In both performance fields



individuals are required to excel in dynamic and complex environments under stress conditions, searching for tactical and outcome advantages against their opponents by managing partial or incomplete information. The attainment of success in both fields will depend on their capacity to efficiently work at both individually and team work level, by combining simultaneously perceptive, cognitive, emotional, motor and social skills. Nevertheless, the outstanding difference is obvious among soldiers, which differing from sportsmen, they must cope with extreme combat situations having to fight for the preservation of their lives.

While epistemologically the science of Psychology has been subdivided in different other-psychologies, (vg. sport, military and organizational) there is an overlap in some of their objects of study and focus of intervention. They are cross related by the matter of individual and group performance. They have stopped being submitted as blocked compartments. Subsequently, for sport psychologists working in military institutions, this matter mean an opening of its performance field since it exceeds to exclusively pursue sports or sportsmen aims, and open up the possibility to properly contribute to military formation.

This revision should be understood as a preliminary approximation since there are still convergencies and divergencies to be explored from theoretical, applied and experimental viewpoints, and reciprocal influences.

P3.55

Adventure Therapy – new field in Sport Psychology and Outdoor Education.

Jiri Kirchner (Department of Outdoor Activities, Czech Republic)

In next part will be summary of research methods and scientific results in this field.

Adventure therapy is a newly arising therapeutic method which includes physically and psychologically demanding activities taking place mostly in a remote natural environment, or in an environment which gives rise to adventure situations. It makes use of the experience resulting from the knowledge that the adventure and risk factors were identified by pedagogical experts and psychologists as a very important and effective element which is able to create models of behaviour for the management of crisis situations and is a suitable tool for “abstracting from particular problems” (Hátlová, Kirchner 2010).

Adventure therapy is one of the forms of psychomotor therapies which was known in the Czech Republic as Kineziotherapy. At present the accepted international term of “psychomotor therapy” is in general use.

Adventure intrinsically creates a feeling of risk, the feeling of starting something new, of daring and power, and the desire for something unknown.

Adventure, as we understand it, therefore means “the activities which are carried out by brave and courageous heroes”.

But the modern concept of adventure finds its basis in a changed quality of experiencing. From the viewpoint of the development of adventure therapy, its roots are connected with the wilderness concepts.

The paper is focused on the presentation of historical and theoretical outcomes for Adventure Therapy programs which are useful for treatment in mental and physical handicap.

P3.56

Three study cases about velocity and accuracy of tennis forehand strokes during video feedback with different speed exposure.

Patrick Zawadzki (INEFC Barcelona, Spain)

Bruna Favaretto (UnoChapecó, Brazil)

Knows how different speed exposure of video feedback could change in velocity and accuracy of forehand tennis shot was the study objective. Three female tennis players with intermediate level who never had watched themselves by video were participants. A study case design in AB format was performed for each player. A camera FH20 (Casio, Japan) was used to capture motion and software Utilius EasyInspect (CCC, 2007) to access strokes velocity. Shot accuracy was evaluated by scored areas. Procedures consist of two sessions with 2x8x10 repetitions of cross court forehand in a controlled exercise design. On intervention phase, each participant watched their last twenty shots three times. In each stop, three speeds for video exposure were used (30fps, 19.8fps, and 36fps, respectively). Players were asked to analyze technique and try to improve it. One-way Anova with multiple comparison procedures was performed to obtain significant differences between speed exposures. The main result shows that during the intervention each player performs velocity different from baseline. Two participants presented a significant increase of velocity after 30fps and 36fps. Social validation of intervention was confirmed with phrases like: “I did not know that I was so slowly... I'll be much faster now”, “I need help... just do not know what to see”, or “Now I can see what teacher says about sweep



the ball". All participants mentioned preference for watch video at 19.8fps to better visualization of technique. Some inverse relationship between accuracy and velocity stroke can be suggested.

P3.57

Variability of opponent tennis serves for anticipation on devolution stroke. Erratism at official matches.

Patrick Zawadzki (INEFC Barcelona, Spain)

Josep Roca (INEFC Barcelona, Spain)

A description from variability of tennis serves technique during official matches with the aim to help opponent how elaborate their anticipate response was the study objective. Based on Field Model Theory, two functional levels of variability are assumed, oscillation and erratism, which conceptually were approached statistical relationships theory. Eight ex-professional players (ex top 10 ATP) were recorded during official matches in Godò Count Championships. A video camera DCR-HC23E (Sony, Japan) and software Utilius EasyInspect (CCC, 2007) was used to derive 45 temporal and spatial variables. Canonical correlation analysis was performed between set variables from serve and bounce. The main result shows a small erratism of player's service technique configuration at the end of ball attack action ($R_c = 0.8174$) and a significant erratism during technique beginning ($R_c = 0.2354$). No oscillation were found. It is concluded that the last part of movement (understood as arm and racket attack until ball contact) where those players are better perceived by their opponents and hence more easily anticipated, what coincide with previous studies conclusions about where information are located. The thematic relevance of Opponent Study is evident when it is seemed the possibility of notify players when and how fit their responses, what turns usefully and closely to coaches the psychologist intervention.

P3.58

Psychophysiologic Aspects in Athletes of Squash in Real State of Play.

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Rubens Augusto Abrão Tempski (PUC-PR, Brazil)

Andressa Melina Becker da Silva (UFPR, Brazil)

Birgit Keller (UFPR, Brazil)

Purpose:

Identify the differences in concentrations of salivary cortisol in squash athletes at rest, before and after competition

Methods:

The sample of 50 athletes from the Squash Federation of Parana, being 14 female, first and second class and 36 males, first to fifth class, members of the stage in a circuit held in Curitiba, all from adult class. For saliva collection was used Salivette[®] tube, made of a plastic tube containing a roll of cotton high absorption. The DSL-10-671000[®] ACTIVE Cortisol Enzyme Immunoassay (EIA) was used for the analysis of saliva. For the data analysis was employed analysis of covariance (ANCOVA) and a statistical regression was performed with SPSS program, version 16, assuming a significance level of $p < 0.05$.

Results:

Was observed an increase in cortisol concentrations between at rest, before and after game. Was found significant differences in concentrations of cortisol between female and male, Wilk's Lambda $\eta^2 = 0.843$, $F(1, 49) = 11.945$, $p = 0.001$, so, females had lower cortisol concentrations ($\bar{X} = 0.010$, $SD = 0.24$) than the male athletes ($\bar{X} = 0.63$, $SD = 0.54$). It was identified there was no difference in cortisol concentrations in victory and defeat for both genders. No association was found between cortisol concentrations and mean time of the game ($\hat{\alpha} = 0.07$, $p = 0.218$).

Conclusions:

It is concluded there was an increase in cortisol concentrations at rest, before and after game, but in females gender it was lower. Other studies should be performed with different indicators to confirm these results.



P3.59

Mixed Martial Arts: Condoned violence or an art of combat? An explorative study of violence in MMA trainers and athletes.

Annemarie Schumacher (Institute of Sport Science, University of Bern, Switzerland)

Mixed martial arts (MMA) is a recently developed combat sport, which is increasingly gaining popularity but is also the cause of controversy due to its excessive use of violence. This sport includes full physical contact and uses a wide palette of fighting techniques taken from various combat sports. These range from kicking and punching to the more brutal “ground and pound” techniques. The attitude towards violence as well as everyday behaviour of individuals choosing to practice MMA is of interest. This content analysis, which is currently underway, explores various aspects of violence including attitude towards violence as well as violent behaviour in everyday life in 20- to 30-year old men practising MMA for two years or more. Moreover, this investigation includes the trainers’ point of view since - from a social learning perspective - this could have an effect on the athletes’ attitudes and behaviour. Three trainers and three athletes per trainer are interviewed. A comparison group of young male kick-boxers are also included in this study. Kickboxing is an established combat sport where physical contact is strictly regulated. It mainly comprises of kicking and punching, however, no further fighting is allowed once a competitor is on the ground. Findings of this explorative study shall be used as a basis for further investigation on a larger scale. Differences in attitude towards violence are expected to emerge between the two groups.

P3.60

Morality in sport: Correlation among Moral development and Sportpersonship.

I. A. Zarotis (University of Athens, Greece)

E. Karakasidou (University of Athens, Greece)

NA Stavrou (University of Athens, Greece)

M. Psychountaki (University of Athens, Greece)

Sport is a particular social context, a ‘world within the world’, as Bredemeier (1995) supported. The purpose of this research is to study correlation among moral maturity of the athletes, as assigned by the level of moral development Kohlberg and sport fairness which referred as sportpersonship by Vallerand, Deshaies, Cuerrier, Briere and Pelletier (1996). In the present study the participants were Greek athletes aged 15-45 years, from twelve different sports, with an athletic experience ranging from 2 to 30 years and from 10 to 850 participations in competitions. To assess the level of moral development, athletes administered the short form of Defining Issues Test (DIT; Rest, 1979), which is adapted in Greek population from Markoulis (1989). To assess the sportpersonship the Greek version of Multidimensional Sportpersonship Orientation Scale was used (MSOS; Vallerand, Briere, Blanchard, & Provencher, 1997; Zarotis, Psychountaki, Stavrou, & Zervas, 2007). Furthermore, participants administered the short form of the Social Desirability Scale (SDS; Crowne & Marlowe, 1960; Psychountaki, Ekkekakis, & Zervas, 1993). The correlation among moral development and sportpersonship demonstrated positive direction in particular factors. Moral maturity is divided into three developmental levels, and sportpersonship was composed of three separate factors. In addition, the differences in correlation among levels of moral development, as proposed by Kohlberg, were studied. The findings confirm previous studies on the relationship between morality developed in daily life and moral behavior in sport fields. The results of this survey confirm the view of Shields and Bredemeier (1995) for “bracketed morality” referred to the ethics developed in the environment of sport.

P3.61

Sports morality judgments among different groups of people.

Małgorzata Turska (University of Silesia, Institute of Psychology, Poland)

Mariola Paruzel (University of Silesia, Institute of Psychology, Poland)

Sport is often seen as a favorable subject of studies focused on moral functioning (Corrion et al., 2009). The presented study is an attempt to broaden morality-related research in the area of sport. Using a recently self-constructed questionnaire Valuation of athletes’ behavior (Paruzel, Turska, 2010), the authors attempt to answer whether various groups of people (professional as well as non-professional athletes, sport fans and non fans etc.) vary in their perceptions of what is (and isn’t) moral in sport. The questionnaire asks about



acceptance and the incidence of behaviors such as: use of doping substances, financial corruption, physical violence, cheating, rudeness, verbal intimidation, pressure from coaches, revenge, hostile attitude toward referees, rapid financial gratification for both the individual and the sport club (organization), pursuit of the goal (winning) at all costs, ect. It also attempts to reveal relationships between these perceptions and people's general moral judgments including ethical absolutism, relativism, utilitarianism, perfectionism, eudaimonism, ethics of rules and altruistic ethics (Ossowska, 1994). Research (2010) shows, that people not only see morality in sport in a different way, but also that valuation of morality depends on what sport is being evaluated (football, cycling, ski jumping, boxing, figure skating). The authors set the hypothesis of existence of differences in morality in and around sports, what can have serious consequences in the ethical and psychological perspective, which the author also indicate in their work.

P3.62

Sport as a Tool in Educational Fair Play.

Maria Ángeles Álvarez Fernández (Universidad de Sevilla, Spain)

Omar Estrada Contreras (Universidad de Sevilla, Spain)

Eugenio Pérez Córdoba (Universidad de Sevilla, Spain)

Inside the area of sports found, we see that is a prolific field for the development, transmission and promotion of values, which may in turn be transferred to many areas of life. Our posters main objective is to innovate in the processes of transmission of values and make suggestions about the sport and its intervention. A traditional educational perspective that addresses the practice of sport as a forum for personal growth in terms of socio-emotional and values and promoting pro-social values such as cooperation and healthy competition, it adds a critical reflection over the problem "spectator sport" which, through mass-media exerts a powerful influence on the behavior of jóvenes. Afrontamos the term "value" from an evolutionary perspective and interbehavioral. Referring to the influence they have on the educational process, coaches, referees, teammates and family. In short how to use sport as an educational tool that guarantees our behavior in other areas that you miss on many occasions when the athlete is immersed in the competition. By working with values we will find many ways to intervene, including, invisible training, direct intervention with athletes, coaches and stakeholders of the sport system. The foundations of this exhibition are linked to the internalization of social standards, the development of empathic reactions to the feelings of others: advance to intuit and understand the feelings of others to adapt our behavior and the construction of personal standards, based on social norms.

P3.63

Self-Deception in Sport.

Maria Ángeles Álvarez Fernández (Universidad de Sevilla, Spain)

Omar Estrada Contreras (Universidad de Sevilla, Spain)

Some authors support the sport as a means of optimum transmission moral and social values. Through the competitions the coach should encourage behavior based on tolerance, and consideration of other players, thus promoting respect for opponents, learning both in victory and defeat of an event. Others choose to separate the ethics of sport, saying it has nothing to do for yourself sometimes is also a promoter of violence, deception, individual leadership There is no doubt that in any sporting event, individually or collectively, the transmission of certain values, or otherwise, the anti-values. (Gutierrez Sanmartin, 1989). But what is important from both perspectives is like the child to the possible selection of possible contingencies of their behavior, choose a type of behavior and not another in relation to such contingencies (behavior expectations). This election is acquired unconsciously is justified by the theory of self-deception (Trivers, R, 2007). The person who works in securities must set out the possible consequences of a behavior or not, because sometimes opt for unethical conduct has a very high cost to the child. Self-deception is a common practice in some sports, such as the child values the same way that the conduct executed. Through our contribution we analyze the theory in the field of sport and how to deal with it.



P3.64

Understanding and counselling athletes who have been sanctioned for violating anti-doping rules: three case studies.

Mattia Piffaretti (AC&T Sport Consulting, Switzerland)

In recent times, some research has focused on the psychological determinants of doping behaviours, in particular the motivational orientations of the athletes (Donahue et al., 2006; Kleinert & Jüngling, 2007) and the role of career transitions such as injury, risk of de-selection or feared career termination (Ohl et al., 2009). To continue deepening knowledge about psychological determinants of anti-doping rules violations, a study, supported by WADA, endeavoured to focus on top athletes who were currently banned from competition. Data were gathered through in-depth interviews, and screened through sound content analysis methods. Results allowed us to shed a light on how athletes came in contact with banned performance-enhancing drugs, how they experienced the ban (ranging from a 2 to a 4-year ban), and the main needs they perceived as sanctioned athletes. In complement to this scientific approach, three athletes agreed to follow a multi-disciplinary intervention programme to foster their clean and safe comeback in the sports world and their social-professional integration. The communication will allow focusing on how such rehabilitation processes take place and how athletes assess their efficiency. Aspects such as working on a new media image, contributing to youth sports educational programmes or preparing a post-sport career plan will be tackled. This study is an opportunity to draw some useful indication on how to construct effective intervention programmes for athletes in breach of the anti-doping regulation, to foster their safe personal rehabilitation and thus contribute to limiting the risk of relapse.

P3.65

An Inside-Outside Ethnography of Cricket Fan Communities: Identity, Immersion and Memories.

Matt Smith (Chichester University, UK)

Mike Weed (Canterbury Christ Church University, UK)

The paper draws on an innovative inside-outside ethnographic study undertaken during the England cricket team's tour to South Africa in 2009/10. One author (Smith) travelled with the fan groups, employing a broad range of ethnographic methods to provide an inside perspective. However, the notes, observations and images collected were posted contemporaneously to a live online portal (access to which was limited to the co-authors) with links to supporting material on sites such as YouTube, from which the other author (Weed) could read, reflect and comment on emerging issues and insights from the ethnography from an outside perspective. The real-time interaction of the inside-outside perspective allowed an innovative interplay between an immersive experiential ethnographic approach and a distanced reflection and feedback on those emerging experiences.

The paper will draw on this inside-outside ethnography to illustrate how the cricket spectating experience on overseas tours is embedded in the tour experience, which provides an opportunity for immersion in the cricket fan community that is not provided when supporting England in England because home support takes place within the context of ongoing everyday work, leisure and family life. This leads to the simultaneous production, reproduction and consumption of memories, in which previous events are recalled, re-lived and extended through the re-telling, such that new and extended memories emerge and are consumed. For community members, anticipating and reminiscing about being immersed in the community acts as a compelling motivation to continue to tour and is an important factor in sustaining cricket fan identities.



P3.66

The effect of stadium atmosphere on members' satisfaction and loyalty in Sport Lisboa e Benfica.

Rui Daniel Gaspar Neto Biscaia (Faculdade de Motricidade Humana, Portugal)

Abel Hermínio Lourenço Correia (Faculdade de Motricidade Humana, Portugal)

António Fernando Boleto Rosado (Faculdade de Motricidade Humana, Portugal)

Carlos Jorge Pinheiro Colaço (Faculdade de Motricidade Humana, Portugal)

This study aimed to test the effect of the stadium atmosphere on members' satisfaction and loyalty in Sport Lisboa e Benfica (SLB). A survey was sent online to the members registered in SLB's database, in May 2010, and 6820 complete responses were obtained. To measure the atmosphere, we adapted the construct proposed by Kuenzel and Yassim (2007). Satisfaction and loyalty measures were based on Vilares and Coelho's (2005) model. Satisfaction was assessed through the contentment feeling with the games, while loyalty was assessed through intention to attend future games and to recommend them to friends and family. To analyze data, a structural equation model was conducted using AMOS 17.0. The model showed a good fit to the data and the results indicated that the stadium atmosphere significantly influences members' satisfaction and loyalty. This means that the chants and cheers of the crowd, the lighting of the stadium and the flight of the eagle "Vitória" contribute positively to members' satisfaction with SLB games and their intention to attend future games and recommend them to friends and family. The effect of the atmosphere allowed explaining 36% of the variance in satisfaction and these two variables, in turn, explained 53% of the variance in loyalty.

P3.67

Relationship between Dialogical Athletic Experiences and Self-Development among Athletes.

Kaori Eda (University of Tsukuba, Japan)

In research on personality development among athletes, there is a need to investigate how they internalize their athletic experiences and link them to personality development. The purpose of this study was to develop a scale to measure athletes' dialogical athletic experiences and examine the relationship between such experiences and self-development among athletes. Based on Hermans's Dialogical Self Theory (DST), a dialogical athletic experience refers to a style of experience in which the athlete has a dialogue with himself/herself through paying close attention to and dialoging with his/her own body. In the present study, self-development was viewed as having two facets—internal and external—and internalization of external self-experiences was assumed to promote self-development. We hypothesized that the dialogical athletic experiences allow internalization to occur, promoting self-development. Based on previous research, we developed the Dialogical Athletic Experience Scale (DAES) consisting of the following 4 factors: "Willingness to face oneself through the experiences," "Trusting attitude toward the experiences," "Subjective relationship with the experiences and athletics," and "Awareness and insights." A total of 592 college athletes completed the DAES, as well as a scale to measure athletes' external self-experiences and an identity scale to reveal internal self-experiences. The results suggested the validity and reliability of the DAES. Further, among all athletes, those who had internalized their external self-experiences and linked them to the development of the internal self ("Mature" group) showed the highest scores on the DAES. Therefore, the study demonstrated a relationship between dialogical athletic experiences and self-development among athletes.

P3.68

Norm and Compare of Profile of Mood State in Elite Male and Female Badminton Players.

Ebrahim Motesharreyi (Tehran University, Iran)

Samira Aghasi (Tehran University, Iran)

Ahmad Farokhi (Tehran University, Iran)

Abolfazl Farhani (Tehran University, Iran)

The idea that personality states may have a significance influence on sport behavior was presented to sport psychology in the 1930s. In this regard, Morgan stated that athletes mood states have a very strong effect on their sport performances. The purpose of this study was to find a norm and compare the profile of mood state



in elite male and female badminton players. For this reason, whole of the male and female badminton players that took part in fajar competition in 2009 and elite badminton players in super league ,totally 130 players, were chosen with purposeful sampling. After collecting and arranging data with use of POMS questionnaire and descriptive statistic indexes, Norm table of participants mood state were plotted based on their sex. Also used from independent t- test for denotation of differences between two groups of male and female mood state means. Findings showed that there was meaningful differences between fatigue, depression and vigor indexes in participants (P 0/05). Nevertheless the profile of mood state in both male and female groups conforms with Morgan iceberg model. Therefore regarding the high importance of mood states in athlete's performance, the coaches must use appropriate assessment implements to evaluate their athlete's mood state.

P3.69

The Relationship and comparison of Perfectionism and Mood states of Team and Individual.

Ebrahim Motesharreyi (Tehran University, Iran)

Samira Aghasi (Tehran University, Iran)

Ahmad Farokhi (Tehran University, Iran)

Abolfazl Farhani (Tehran University, Iran)

Perfectionism and mood states are psychological constructions which according to the results of recent studies have substantial role in sport performance. The purpose of this research is to determine and compare relations between sport perfectionism and mood states in team and individual athletes. Research method is descriptive and correlated. Based on random sampling, 50 athletes in individual fields and 50 team players from national super league constructed the research population. Two questionnaires of sport perfectionism, Dunn, et al (2006) and Brums, Terry et.al (2003) were respectively used for evaluation of perfectionism and mood states of athletes. The questionnaires were distributed and completed one day before tournaments and individually. Pearson correlation coefficient, independent t-test, z Fischer were used. Findings of the present research showed that in team fields, there is positively significant relationship between concerns of mistakes as negative aspect of perfectionism and scores obtained on depression, fatigue, tension, confusion and total mood disturbance before competition while such relationship is negative with vigor. In individual fields, there is significant positive relationship between concerns of mistakes as a negative aspect of perfectionism, and scores on depression, anger, and total mood disturbance before competition, while this relationship with vigor is significantly negative. There is no significantly different relationship between perfectionism of athletes of team and individual but there is a significant difference between team and individual regarding mood states of depression and fatigue so that the average score on these two components is higher in team than individual athletes. Finally the results of z Fischer test showed no significant difference between perfectionism correlation coefficients and mood states before competition in team and individual athletes.



Poster session 4 | Friday, July 15th | 10:00-12:00

P4.01

Passion in sport as a behavioral addiction.

Alicja Mlek (Warsaw School of Social Science and Humanities, Poland)

The series of studies concerns the issue of passion in sports and has been based on the Dualistic Model of Passion formulated by Robert Vallerand in 2003. The purpose of the first study was to examine whether supporting the autonomy can have an influence on the levels of obsessive and harmonious passion. The results have shown that supporting the autonomy of participants has significantly enhanced their autonomy. It has not, however, influenced their level of obsessive and harmonious passion. An interesting additional result was the fact that among the 167 participants was no-one whose level of obsessive passion was higher than harmonious passion. That arouse the question whether the passion scale was sensitive enough or maybe the definition of passion is not sufficiently precise. To answer this question a qualitative study was conducted in order to examine how professional athletes (training for a mean period of 10 years) define their passion. Results of this study show, based on the athletes description of their passion, a resemblance to behavioral addiction to the activity one feels passionate about.

In the next step a Behavioral Addiction toward Passion Scale was created. Results show that behavioral addiction toward passion correlates with obsessive passion.

Conclusions from the studies are interesting in two ways: firstly, probably autonomy is not a good predictor of type of passion that will develop. Secondly, obsessive passion, because of its correlation with addiction, is probably situated on the border between norm and disturbance which is why it occurs rarely in general population.

P4.02

Relationship Personality And Exercise Dependence.

Gaye Erkmen (Middle East Technical University Social Sciences, Turkey)

Alina Grushetskaya (Middle East Technical University, Turkey),

F. Hulya Ascý (Başkent University, Turkey)

The purpose of the present study was to investigate whether the personality characteristics are related to exercise dependence symptoms of exercise participants. The sample of the study consists of 89 female (M= 22.74, SD= 3.45) 166 male (M= 22.79, SD= 3.51) exercise participants who exercised more than six months in university sport centers. Exercise participants were from fitness, pilates, body building, swimming, underwater hockey, tennis, martial arts, yoga, capoeira, and dance. Five Factor Personality Inventory (5FKFE; Somer et al. 2002) and Multidimensional Exercise Dependence Scale (EDS-21; Hausenblas, Symons Downs, 2001) were administered to 255 exercise participants for assessing the relationship between personality and exercise dependence. Stepwise Multiple Regression procedure was used to determine whether personality characteristics might predict exercise dependence. Results of Multiple Regression Analysis indicated that, model was significant, $F(1,253) = 5.713$, $p < .05$. The model explained only 2 % of the variance in the the exercise dependence of participants. Among five personality characteristics, only conscientiousness factor was significantly and positively correlated $\hat{\beta} = .149$, $p < .05$. The conscientiousness factor predicted the only 2 % proportion of the variance. On the other hand, extraversion, agreeableness, emotional stability and openness factors were not predictors on exercise dependence. In summary, personality characteristics of exercise participants are not valid predictors of exercise dependence symptoms.

P4.03

Predictors of adherence in young handball players.

José F. Guzmán (University of Valencia, Spain)

The aim of this study was to analyze the causal sequence: Mastery climate? Psychological mediators? Self-determined motivation? Sport commitment? Adherence, in a sample composed by 302 competitive handball players, ages between 14 and 18 (M =15.6; DT =1.35), 154 boys and 148 girls. A prospective study was conducted over a 12 month-period. In the first stage handball players were administered the instruments to



measure the studied variables. 12 months later researchers asked them if they continued practising their competitive sport. Alpha coefficients of subscales ranged from .69 to .86. Correlations between the variables were positive and moderately correlated, r ranging from .47 to .69. Persistent athletes had higher perception of coach-created mastery climate ($M = 4.24$; $SD = 0.70$), and sport commitment ($M = 4.97$; $SD = 0.80$) than dropout athletes: mastery climate ($M=3.96$; $SD = 0.90$), and sport commitment ($M = 4.50$; $SD = 1.08$). The hypothesized structural model showed a good fit to the data, $\chi^2 / df = (5.64, df = 3) = 1.88$; $p < .131$, $IFI = .995$; $NFI = .988$; $CFI = .994$; $RMSEA = .054$ (low = .000; and high = .122). The main contribution of the study was to show that to young athletes the perception of coach-created mastery climate predicted not only satisfaction of psychological needs, but also self-determined motivation and sport commitment.

P4.04

Validation of the Athlete Burnout Questionnaire with youth athletes using a think aloud protocol.

Lee-Ann Sharp (University College Plymouth St Mark & St John, UK)

Mark J.G. Holland (University of Birmingham, UK)

Charlotte Woodcock (University of Birmingham, UK)

Jennifer Cumming (University of Birmingham, UK)

Joan Duda (University of Birmingham, UK)

The Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001) has emerged as a valid and reliable theory-based measure of burnout in adult-aged athletes. However, the ability of the ABQ to assess the dimensions of burnout within youth athletes has yet to be extensively tested. This study aimed to understand the processes of, interpretation of, and responses to, the task of completing the ABQ by youth athletes. Fourteen youth athletes ($M = 16.16$ years, $SD = 0.36$), completed a think aloud protocol. This procedure required participants to verbalise thoughts that would normally be silent (Ericsson & Simon, 1993). Participants' think aloud responses were recorded, transcribed and coded for evidence of participant understanding of, and their approach to, completing the ABQ. Using a coding framework the first two authors independently segmented and coded the 14 think aloud transcripts on two separate occasions. Following the second coding iteration preliminary results identified a number of psychometric issues. First, the highest frequency of problem responses were identified with the reduced accomplishment subscale. This is the only subscale of the ABQ to have negatively worded items, which the youth athletes appeared to have difficulty responding to. Second, further qualitative analysis highlighted the inability of participants to differentiate between the emotional and physical constructs of the emotional/physical exhaustion subscale. The athletes referred to an overall physical tiredness that did not specify an emotional or physical component. Findings provide implications for the use of the ABQ with youth athletes.

P4.05

Athlete Burnout: Differences Across Sex, Age And Other Sport Characteristics.

Alexandra Markati (Kapodistrian University of Athens, Greece)

Athlete burnout is characterised as a syndrome which arises from an individual's appraisal of sport performance. According to Raedeke (1997), athlete burnout is reflected by three key indicators: emotional/physical exhaustion, reduced sense of accomplishment and sport devaluation. The purpose of the present study was to explore the potential differences in the athlete burnout, relevant to gender, age, sport and competition level and how these differences can be influenced by other factors (years of experience, volume and intensity of training and satisfaction for the outcomes).

Participants were Greek male and female athletes from individual and team sports, aged from 13 to 38 years old. They completed the Greek version of the "Athlete's Burnout Questionnaire" (Raedeke & Smith, 2001; Markati, Psychountaki & Karteroliotis, 2010) and a form of demographic and athletic characteristics.

The results revealed that differences existed only between competition levels (low, medium, high level). However, the following groups: women generally, individual sport athletes, 19-24 years old athletes and medium competition level athletes, seem to have a tendency to suffer higher levels of burnout.

Finally, examining the covariance of years of experience, volume and intensity of training as well as satisfaction for the outcomes, it was found that satisfaction for the outcomes played a significant role in the level of burnout of the above groups. Generally, the results reflect that athlete burnout experience may appear in a variety of groups of athletes. It was also discovered that feelings of satisfaction can play a significant role in the



understanding of burnout syndrome.

P4.06

Personality traits and passion for their sport among junior elite athletes.

Martin Eisemann (University of Tromsø, Norway)

Lars Bauge (University of Tromsø, Norway)

The present study aims to investigate the relationship between personality traits, athletic discipline, passion for the sport, performance and self esteem. 139 senior high school students, attending schools for elite level junior athletes completed a test battery comprising Junior Temperament and Character Inventory (J-TCI), Passion scale, Rosenberg self esteem scale (RSES), and World Health Organization's WHO-5 well-being index. Preliminary results show that athletes competing in team sports score higher on the temperament traits of Novelty seeking and Harm avoidance and on the character traits of Reward dependence, Cooperativeness and Self transcendence than those competing in individual sports. On the other hand, athletes from individual sports score higher on Persistence and Self-directedness. We found a significant difference on personality traits between the different competition levels, ($p = .006$ Wilks' $\Lambda = .735$). The difference that was significant were harm avoidance, values on this personality trait were reduced for higher competitive participants. Male athletes in our study scored significantly higher on Rosenberg's self-esteem measure, while female athletes had higher values on the temperament trait reward dependence and the character trait cooperativeness, ($p < .05$). Further, we found self-esteem positively correlated with harmonious passion whereas harm avoidance correlated negatively with self-esteem. Finally, well-being correlated positively with self-directedness and self-esteem and negatively with harm avoidance. Our results should be useful in guiding both coaches and athletes for optimizing their training.

P4.07

Sport commitment and dropped out behavior in young athletes.

Pedro Antonio Sánchez Miguel (Faculty of Sports Sciences, University of Extremadura, Spain)

Francisco Miguel Leo Marcos (Faculty of Sports Sciences, University of Extremadura, Spain)

David Sánchez Oliva (Faculty of Sports Sciences, University of Extremadura, Spain)

Tomás García Calvo (Faculty of Sports Sciences, University of Extremadura, Spain)

Diana Amado Alonso (Faculty of Sports Sciences, University of Extremadura, Spain)

Enjoyment is a common reason for participating in sport and physical activity (Weiss & Ferrer – Caja, 2002). Despite numerous sources of enjoyment available within sport context, many children and adolescents discontinue their participation due to reduced enjoyment. To better understand this behavior, Scanlan and colleagues developed a conceptual framework called Sport Commitment Model that place enjoyment as a key construct (Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993a; Scanlan, Simons, Carpenter, Schmidt, & Keeler, 1993b). This study examines the importance of sport commitment model on persistence in 958 young athletes from Extremadura (Spain), ranging in age from 11 to 16 years old, belonged to football, basketball, handball and volleyball teams. We used the Sport Commitment Questionnaire (SCQ: Scanlan et al. 1993b) which consists of 27 items that taps sport commitment (5 items), enjoyment (4 items), attractive alternatives (4 items), social constraints (8 items), personal investments (2 items) and involvement opportunities (4 items). Individuals responded in a 5-point Likert Scale ranging from 1 (strongly disagree) to 5 (totally agree). The one year follow-up study, sport dropped out was measured through federative license and semi structure interview. Results showed significant differences in sport commitment, enjoyment and alternatives activities between participants that continued in the practice regarding athletes that did dropped out. Furthermore, discriminant analysis indicated that attractive alternatives were a positive predictor of dropped out behavior, whereas sport commitment, enjoyment and involvement predicted persistence. Development factors and additional determinants are important to consider in further studies of the sport commitment model.



P4.08

Whether Exercise Habit Foster Inhibition/ Interference Function in Elderly Adults.

Shiao-Yun Hung (Taipei Municipal University of Education, Taiwan)

Che-Wei Chang (National Taiwan Normal University, Taiwan)

Chung-Ju Huang (Taipei Physical Education College, Taiwan)

Tsung-Min Hung (National Taiwan Normal University, Taiwan)

Objectives:

Physical activity has been shown beneficial to reduce the interference control in the elderly. Therefore, the purpose of current study was to examine whether older physically active and sedentary adults participated in a Stroop paradigm, while measures of response speed, response variability were examine. The Stroop interference effect was one of the most robust and best known in cognitive function. In this task, participants were shown drawings of colored squares and incongruent color words (e.g. the word 'blue' written in green). Past studies showed that the participants required more time to respond to the color-incongruent words than the color squares. The time delay was due to the interference from the word to the color naming demand.

Methods:

Ten physically active and ten physically less active elderly were recruited based on physical activity history. The physically active participants were those that regularly exercise 3 times over 30 minutes per week, whereas the less active individuals didn't participate in regular exercise. Participants performed congruent, incongruent, and neutral trials of a Stroop task. Both reaction time and event-related potential (ERP) during the Stroop task were measured. We reported the preliminary analysis on the reaction data only. Results: One 2×3 (group×task condition) mixed-designed ANOVA revealed an insignificant interaction of group×task condition. Nevertheless, there was a main effect of task condition. Longer reaction time was observed in incongruent condition than in congruent and control conditions for both groups.

P4.09

The Causal Relationship Of Factors Affecting In Eastern Youth Elite Athletic Burnout.

Singhnoy Chatkamon (Faculty of Sport Science, Burapha University, Thailand)

The purpose of this study was to examine the causal relationship of factors affecting in athletic burnout. The 218 Eastern youth elite athlete from sport school of Chonburi province campus, Thailand (male = 160 and female 119) aged 14.80 ± 1.74 years old (12-19 years) and time to training average 5.58 ± 1.53 hours/day who completed a series of Thai version of athlete burnout questionnaire (TABQ); the task and ego in sport orientation (TEOSQ); competitive trait anxiety questionnaire (SCAT); overtraining questionnaire; attitude of significant others questionnaire; external control questionnaire and role conflict questionnaire and compute with path analysis technique in LISREL.

The results show that the overall of the causal relationship of factors affecting in eastern elite athletic burnout model was acceptable fit (?? (df = 1370) 2898.78, p-value = .00, GFI = 0.72, CFI = 0.86, NNFI = 0.85, RMSEA = 0.06). Also the overtraining factor strong more than competitive trait anxiety factor and role conflict factor were direct effect to athlete burnout model. Moreover attitude of significant others was indirect effect pass ego orientation, task orientation and anxiety factors. In other hand, the external control was not effect on eastern elite athletic burnout model. These finding supports the effect of multifactor almost related with inappropriate training, anxiety and conflict with academic or sport way on youth elite athlete burnout.

P4.10

Monitoring the Recovery-Stress States, Ratings of Perceived Exertion and Total Quality Recovery among Student Rugby Players over a 10-week Pre-competition and Competition Period.

Heinrich Grobbelaar (Stellenbosch University, RSA)

Student rugby players (N = 29) with a mean age of 22.64 (S.D. = 1.6) years who represented a leading tertiary institution in South Africa during the 2008 Varsity Cup Tournament were monitored during a pre-competition and competition period spanning 10 weeks (11 test points: T0 – T10). The Recovery-Stress Questionnaire (RESTQ-52 Sport) was administered on a 3-weekly basis (T0, T3, T6, T9), whilst Ratings of



Perceived Exertion (RPE) and Total Quality Recovery (TQR) scores were measured weekly (T1 – T10) in order to determine practical significant changes (effect sizes) in the average group scores during this period. Moderate practical significant ($d \geq 0.5$) changes were observed for the Total Recovery-Stress State ($3.22 \pm 2.6(T6)$ & $4.27 \pm 2.8(T9)$), General Stress ($1.28 \pm 0.7(T0)$ & $1.60 \pm 0.8(T3)$; $1.63 \pm 0.8(T6)$ & $1.28 \pm 0.8(T9)$), and General Recovery ($3.12 \pm 1.0(T6)$ & $3.59 \pm 1.3(T9)$). Moderate to large practical significant fluctuations (ranging from $d = 0.53 - 2.11$) in RPE scores were evident during five test periods, whilst TQR(perceived) changes of moderate magnitude ($d \geq 0.5$) occurred during two test periods. TQR(action) scores showed moderate significant ($d \geq 0.5$) differences, most notably for sleep and rest (five test periods), as well as nutrition and hydration (three test periods). Changes in the Recovery-Stress States, RPE and TQR(perceived & action) scores were discussed collaboratively, whilst time of season and match outcome effects were indicated. Recommendations include the collective monitoring of these scores to detect intra-individual changes in order to optimise training, recovery and performance.

P4.11

Work interdisciplines as element facilitator of the perception of the sportsmen's performance.

Juan González Hernández (Universidad de Murcia, Spain)

Irene Checa Esquiva (University of Valencia, Spain)

Eva León Zarceño (University of Elche, Spain)

Santiago López Delgado (ACD L'Elia, Valencia)

In this work there describe the different phases (nine in total) that compose a multidisciplinary design that is facilitating to us to implant an effective method for the psycho-sport training in the sport, that still not being very different from those that we can observe in other offers (Cross, 1997; Buceta, 1998; Dosil, 2002; Dosil, 2004; Garcés de Los Fayos, Olmedilla and Rockrose, 2006), yes it has the shade of unifying the work that is offering quality to new tennis players, with great success as for personal satisfaction of the same one, as for the development of the global training and, enclosedly, in the improvement of the results that are obtained and where. Undoubtedly, the work of the psychologist also is influencing. The different phases that compose our method are the following ones: - detection of the psychological need of the sportsman;-Contrast of the previous information with trainer or relatives; - contextual analysis of the sportsman; - design and administration of the initial evaluation; - adjustment of the psychological variables to working and suitable technologies; - mental training in strict sense; - mental indirect training; - continuous assessment it continues of the psychological realized training; - continuous assessment it continues of integral form. Sure that the method to which we have come will not be definitive one but, yes at least, it is the one that nowadays is allowing us to combine the whole series of multidisciplinary trends of work perfectly adapted to the needs of the sportsmen

P4.12

Self-talk in a visuomotor coordination task: The influence of the skill-level.

David Graf (University of Berne, Switzerland)

The purpose of the present study was to examine the influence of skill-level on the efficacy of a self-talk intervention program while performing a visuomotor coordination task. Based on the findings of Munzert (1997), it was hypothesised that skilled participants should be hindered by self-talk during the first few trials, while less-skilled participants should benefit from it. 54 students were randomly assigned to the 'self-talk-' or the 'control-group' and performed the test 2HAND from the Wiener Testsystem twice. After the pre-test, the 'self-talk group' (n=40) received a written instruction to use specific, mainly instructional self-talk cues. Results showed no difference between the groups in performance as assessed by error-length and trial-duration. To test the influence of skill-level on the effectiveness of the self-talk intervention, the two groups were divided into 'skilled' and 'less-skilled' subgroups (separated by the group's median). A three-way (time x group x skill-level) mixed model ANOVA revealed a significant time x group x skill-level interaction ($F(1, 50) = 4.021$, $p = .05$), time x skill-level interaction ($F(1, 50) = 27.504$, $p < .01$) and time effect ($F(1, 50) = 77.983$, $p < .01$). Contrary to the findings of Munzert (1997), further analyses showed that participants from the 'less-skilled self-talk group' made smaller improvements than those from the 'less-skilled control group' ($p = .063$, $\eta^2 = 0.132$). The results suggest that less-skilled participants seem to suffer from self-talk because of the dual-task condition of the experiment (remembering the self-talk-cues and performing the task). This was not found for



skilled participants because their task-execution was probably more automated.

P4.13

The impact of opponents' self-talk and reputation on the first impression and outcome expectations of male golfers.

Phil Birch (University of Chichester, UK)

This study investigated the impact of golfers' reputation and observable self-talk on the impressions formed of them by other golfers. Participants (90 competitive male golfers) observed DVD footage of a golfer hitting a golf tee-shot. The golfer was filmed exhibiting either positive, negative or neutral self-talk after tee-shot completion. Participants observed one of the three self-talk manipulations. Prior to observation, participants were given either positive, negative or neutral reputation information regarding the golfer's ability to cope under pressure. After observing the player, participants rated their first impressions of the golfer on a series of descriptors (e.g., not focused-focused, tense-relaxed and negative-positive) and their confidence of defeating the golfer. ANOVA identified a significant self-talk by reputation interaction effect ($F(4,79) = 4.551, p = 0.002$) for the first impression ratings of the target player. Follow-up analyses indicated that whilst self-talk had no impact on first impression scores when reputation information was given (positive or negative), self-talk did influence impressions when no (neutral) reputation information was provided. Here the positive self-talk led to more favourable impressions than neutral self-talk which led to more favourable impressions than negative self-talk. For outcome expectations, ANOVA identified significant main effects for self-talk ($F(2,79) = 6.379, p = 0.003$) and reputation ($F(2,79) = 15.508, p < 0.005$). Participants felt significantly less confident in defeating the golfer when he was believed to have a positive reputation and when he exhibited positive self-talk. Our findings indicate that observable self-talk and an athlete's reputation can influence interpersonal perception in sport.

P4.14

Comparing goal orientations, perceived motivational climate and perceived physical competence of athletes with regard to gender.

Atahan Altintas (Baskent University Department of Sport Sciences, Turkey)

Perican Bayar Koruç (Ankara University, Turkey)

Cengiz Akalan (Ankara University, Turkey)

The purpose of this study was to compare the perceived motivational climate, goal orientations and perceived physical competence of athletes with regard to gender. For this aim, 181 male (17.65 ± 2.83), 106 female (17.39 ± 2.23) totally 287 athletes (17.55 ± 2.62) who involved in different sports (soccer, volleyball, basketball, ice hockey, handball) voluntarily participated in this study. "Task and Ego Orientation in Sport Questionnaire" was used to determine goal orientations of athletes, "Perceived Motivational Climate in Sport Questionnaire" was used to determine perceived motivational climate of athletes and "Physical Self Perception Profile" was used to determine physical competence of athletes. Descriptive statistics, One Way Analysis of Variance (ANOVA) and Multiple Way Analysis of Variance (MANOVA) technics were used to analyse data. Results of analysis showed that, both task and ego orientation scores of female athletes were higher than male athletes' scores ($p < 0.05$). Similarly, while mastery climate scores of female athletes were higher than mastery climate scores of male athletes ($p < 0.05$), there was no significant differences in performance climate scores between male and female athletes ($p > 0.05$). Besides this, findings showed no differences in perceived physical competence between female and male athletes' scores ($p > 0.05$). In conclusion, it can be said that, female athletes focused on both learning skills, demonstrate proficiency in task, hard work concepts and belief that reach to success defeated their opponents and proven ability.

P4.15

Achievement goals in sport context: data from a volleyball team.

Catia Magalhães (University of Oporto, Faculty of Psychology and Education Sciences, Portugal)

Marina Serra Lemos (University of Oporto, Faculty of Psychology and Educational Sciences, Portugal)

There is a lively debate in motivation literature about the debilitating effects of competition. However, the majority of this discussion has been directed toward the understanding of the effects of competition on



academic achievement context. Sport contexts are by definition oriented to achievement and to confront feelings of success and failure. Within the conceptual framework of Achievement Goal Theory (AGT), the present study investigated the specificities of competition and of its effects in sport. Elliot's (2003) 2x2 goal model defines four types of achievement goals: mastery-approach goals (focusing on the acquisition of absolute competence), mastery-avoidance goals (avoiding intrapersonal incompetence), performance-approach (demonstrating better performance than others) and performance-avoidance goals (avoiding performing worse than others). Within a mastery goal individuals seek to increase their competence, whereas within a performance goal, individuals seek to gain favorable judgments of their competence. These contrasting concerns have been associated with differential effects on motivation, commitment and performance in educational context. Another growing line of research in this area refers to the negative emotions associated with avoidance goals, such as anxiety, discouragement, and frustration. The study presented here was conducted with a senior female volleyball team playing at the Portuguese first division and analyzed the goals of the athletes (using Elliot's (2003) AGQ-S) as well as its relations with perceived competence, engagement and emotions at volleyball games. Results will be discussed in terms of the distinctiveness of achievement goals in competitive sport contexts and of its effects on the athletes' motivation and performance.

P4.16

The relationships between goal orientations, self-determination, self-esteem, enjoyment of sport, subjective vitality, anxiety and moral behavior in Greek youth soccer players.

Charalampos Krommidas (University of Thessaly, Greece)

Athanasios Papaioannou (University of Thessaly, Greece)

Nikolaos Zourbanos (University of Thessaly, Greece)

Giannis Tzioumakis (University of Thessaly, Greece)

Giorgos Ampatzoglou (University of Thessaly, Greece)

Galateia Gioti (University of Thessaly, Greece)

Vasilios Alexiou (University of Thessaly, Greece)

Soccer is one of the most popular sports in Greece and according to the Hellenic Football Federation (2002) about 30.000 young players are involved in soccer (football) clubs. The purpose of this research was to examine the relationships between goal orientations, self-determination, self-esteem, enjoyment, subjective vitality, anxiety and moral behavior in a sample of Greek youth soccer players. The sample was 294 male players aged 9 to 15 years old ($M=11.96$, $SD=1.40$) from 11 soccer clubs of northern Greece. A package of well valid and reliable self-report questionnaires completed voluntarily from the players before their training (Cronbach's α ranged from .56 to .87). Regression analysis revealed that task orientation was a significant predictor of subjective vitality, enjoyment of sport, self-esteem, competence, autonomy, relatedness and variables of moral behavior such as commitment, social conventions, rules and officials and opponent ($p<.05$). Ego orientation was a significant predictor of somatic and worry variables of anxiety, competence, autonomy and variables of moral behavior such as social conventions, rules and officials and negative approach ($p<.05$). In conclusion, these findings may form the basis for implementing intervention programs to increase exercise levels and player's motivation at the field of youth Greek football.

P4.17

Multiple goal management: Longitudinal examination of concurrent management of weight loss with other goals.

Heather McKee (University of Birmingham, UK)

Nikos Ntoumanis (University of Birmingham, UK)

Human behaviour is centred on goals. Consequently much of our daily activities involve deciding how much effort to invest in goals, when to invest it and which goals to invest it in. Although the simultaneous pursuit of multiple goals is an everyday occurrence and much is known considering the well-being implications of conflicting goals, little is known about multiple goal pursuit in a weight-loss context. Thus, investigation into the goal-related processes surrounding weight loss goal management is warranted in order to discover the key characteristics related to weight-loss success or indeed, failure.

The current research aims to examine how people manage their weight-loss goals simultaneously with another prominent non weight-related goal. The study is currently in progress and consists of three questionnaires each completed a month apart. To date, data has been collected from 85 undergraduate



students who nominated a weight loss and a competing goal (primarily academic) that they aim to pursue during the current academic term. The questionnaires examine multiple goal-related characteristics influencing both goals, such as goal difficulty, prioritisation, value, effort, expectancy of attainment, temptations affecting progress, interference or facilitation of competing goal and psychological well-being.

The present research aims to identify the goal-related characteristics that contribute to successful concurrent goal management and also to identify those that inhibit success. It is hypothesised that those who have similar levels of goal-related characteristics for both goals will be more likely to attain both goals simultaneously rather than those whose efforts are heavily directed towards one of the goals.

At those who have similar levels of goal-related characteristics for both goals will be more likely to attain both goals simultaneously rather than those whose efforts are heavily directed towards one of the goals.

P4.18

Dispositional goal orientations and motivation regulations in competitive divers.

Saara Haapanen (University of Jyväskylä, Finland)

M. Ruiz (University of Jyväskylä, Finland)

Lintunen Taru (University of Jyväskylä, Finland)

According to achievement goal theory [1], a task-oriented athlete focuses on developing and demonstrating high ability, while an ego-oriented athlete strives to outperform others. Previous research has indicated that task-orientation is positively associated with intrinsic motivation and adaptive motivated behaviours [2]. This study aimed to: (1) explore dispositional goal orientations and motivation regulations in springboard and platform divers; (2) investigate the relationship between divers' competitive level, goal orientations and motivation regulations; and (3) examine differences in motivational variables of divers currently competing or retired from competition.

Methods and Procedure:

Participants included 639 (229 males, 410 females) divers (M age = 21.45 ± 6.2 years) representing 31 countries. Three hundred and seventy-five divers were still active and 264 had already retired. The mean of divers' sport experience was 8.84 ± 7.12 yrs and reported competitive levels ranged from elite (e.g. Olympians) to regional. The participants, contacted through diving related facebook groups, completed an online survey that assessed: (1) demographic information, (2) motivation regulations measured on the Sport Motivation Scale [3], and (3) dispositional goal orientations assessed on the Task and Ego Orientation in Sport Questionnaire [4].

Results and Discussion:

In general, divers reported higher values in task orientation ($M = 4.39 \pm .55$) than ego orientation ($M = 3.20 \pm .99$). The divers also reported highest scores in intrinsic motivation (with means ranging from 4.59 to 5.62) and the lowest value for amotivation ($M = 2.46, \pm 1.5$). Significant positive interrelations were found among all intrinsic motivation subscales ($p < .01$). All intrinsic motivation subscales ($p < .01$) were positively interrelated with task orientation ($p < .01$) and negatively interrelated with amotivation scores. These findings are in line with previous research. Retired divers reported having ceased participation at a mean age of 19.8 ± 3.7 years due to injury (22.3% of answers) or other reasons. Independent t-tests were used to compare motivation variables between current and former divers. Results indicated that divers who were still actively competing scored significantly higher on task orientation ($p < 0.01$). Interestingly, significant differences were also found for scores in introjected regulation ($p < 0.001$), and external regulation ($p < 0.05$). High scores in external and introjected regulations have been associated with dropout [5]. More longitudinal studies in samples of athletes are warranted. Results from analyses of variance did not yield significant differences for motivational variables across competitive levels.

P4.19

Perfectionism and motivational climate with competitors of different type.

Tatiana Lancheva (National Sports Academy, Sofia, Bulgaria)

Galina Domuschieva-Rogleva (National Sports Academy, Sofia, Bulgaria)

Perfectionism's impact on an athlete's behavior has been widely discussed in recent years. Perfectionism is defined as a network of knowing, expecting, interpreting and evaluating events (Burns, 1980) by "setting up



unrealistically high standards, accompanied by an overcritical self- evaluation“, (Frost, Marten, Lahart & Rosenblate, 1990). It directly affects the way the cognitive, affective and behaviorist characteristics function within the competitor himself (Davis, 1997; Frost, Heimberg, Holt, Mattia & Neubauer, 1993, Hamashek, 1998; Terry-Short, Owens, Slade, & Dewey, 1995.)

“Many of the most effective world renowned sports players are perfectionists deep down in their orientation” (Hardy, Jones and Gould, 1996). Perfectionism is usually linked with the orientation towards high goals and better execution (Bradham, 2000) and the perceived motivational climate. Most authors think that it is in an athlete’s nature to be a perfectionist, but this tendency has not yet been determined.

The aim of the current report is to research perfectionism and the perceived motivational climate of competitors from different sports and with different levels of qualification, the links between the pre-researched constructs, as well as the differences in their manifestations according to the type of sport at hand, age, gender and the competitor’s qualification.

In order to accomplish the goal of the research we used: 1) Multidimensional Perfectionism Scales (Frost-MPS), developed by Frost, Marten, Lahart, & Rosenblate (1990) and 2) A questionnaire to investigate the perceived motivational climate – 2 (Perceived Motivational Climate in Sport Questionnaire – (PMCSQ – 2)) – a registry of methods for making diagnostics of the motivational climate (Newton, Duda & Yin, 2000).

The subjects that are taking part in the research are a number of 122 athletes at the age of 12 to 29 from different types of sporting activities (individual and collective) with a different level of qualification.

The gathered data and the newly found regularities as well as the differences in gender, age and type of sport give an amazing opportunity for optimizing the sport-competitive activities and to differentiate the pedagogical influences.

P4.20

Perfectionism and goal orientation with competitors with different level of qualification.

Tatiana Lancheva (National Sports Academy, Sofia, Bulgaria)

Galina Domuschieva-Rogleva (National Sports Academy, Sofia, Bulgaria)

Perfectionism is an important psychological variable that has been analyzed quite frequently in recent years. It has great influence on the way the cognitive, affective and behaviorist characteristics function within the competitor himself (Davis, 1997; Frost, Heimberg, Holt, Mattia & Neubauer, 1993, Hamashek, 1998; Terry-Short, Owens, Slade, & Dewey, 1995.)

Perfectionism is defined as a network of knowing, expecting, interpreting and evaluating events (Burns, 1980) by “setting up unrealistically high standards, accompanied by an overcritical self- evaluation“, (Frost, Marten, Lahart & Rosenblate, 1990).

The effect of perfectionism on the athlete is widely discussed. According to Hardy, Jones and Gould (1996) “many of the most effective world renowned sports players are perfectionists deep down in their orientation”. Perfectionism is linked to the orientation of high goals and their most successful completion (Bradham, 2000). Most authors think that athletes have a tendency towards perfectionism, but the actual effect of this tendency is not fully disclosed, nor studied.

The aim of the current report is to study perfectionism and goal orientation with competitors with different levels of qualification and the common links between the researched constructs, as well as the differences in their manifestations according to age, gender and of course the actual sport, being played and the qualification of the athletes themselves.

For achieving optimal success from the research we used: 1)) Multidimensional Perfectionism Scales (Frost-MPS), of Frost, Marten, Lahart, & Rosenblate (1990) and 2) A questionnaire for measuring the goal orientation towards the task at hand and the ego in the sport itself (Task and Ego Orientation in Sport Questionnaire – TEOSQ, Duda & Nicholls, 1992).

The subjects of the are 122 athletes, aged from 12 to 29 with different levels of qualification, representatives of individual and collective sports.

The gathered data and the newly found regularities as well as the differences in gender, age and type of sport give an amazing opportunity for optimizing the sport-competitive activities and to differentiate the pedagogical influences.



P4.21

Relations between goal orientation, motivational climate, perceived physical competence and enjoyment in sport in Finnish youth athletes.

Tommi Sipari (KIHU - Research Institute for Olympic Sports, Finland)

Background:

The aim of this study was to explore the connections between goal orientation, motivational climate and their cognitive and affective responses in Finnish youth athlete sample. Task and ego goal orientations have been connected to different cognitive, affective and behavioral outcomes in athletes (Biddle & al., 2003). For example, both mastery and ego orientation have been linked with perceptions of competence, and mastery orientation is also associated with positive affect. According to Vazou, Ntoumanis & Duda (2006), goal orientation can be enhanced by clues and expectations from motivational climate in sport. Thus, cognitive and affective outcomes of goal orientation might be consequentially associated to perceived motivational climate.

Hypothesis:

According to previous reports, we expected mastery climate to be connected with task orientation. Both types of goal orientation were expected to be related to perceived competence, and mastery orientation was also expected to have a correlation with enjoyment. Mastery oriented motivational climate was expected to have a relationship with mastery orientation, as well as ego-oriented climate to be connected with ego-orientation.

Sample:

The sample (N=530) consists of individual sports youth athletes born in 1995. Four different sports are represented in the sample: track and field (n=281), cross country skiing (n=157), figure skating (n=74) and gymnastics (n=18).

Measures:

Goal orientation was measured by Perception of success questionnaire (POSQ, Roberts & al, 1998), motivational climate by Perceived Motivational Climate in Sport Questionnaire (PMCSQ, Newton & Duda, 1996), cognitive outcomes by Perceived Physical Competence Scale (PPCS, Lintunen, 1995), and affective outcomes by Enjoyment in Sport (Scanlan, Carpenter, Schmidt, Simons & Keeler, 1993, Liukkonen, 1998).

Results:

Mastery orientation correlated with task orientation. Surprisingly, mastery orientation was also associated with ego orientation. Performance orientation correlated significantly with ego orientation. Both types of goal orientation also inter-correlated. Task orientation correlated significantly with enjoyment as well as with perceived competence. Also according to hypothesis, ego orientation was associated with perceived competence. Mastery orientation correlated enjoyment perceived competence. Enjoyment and perceived competence also correlated with each other.

Conclusions:

The data support hypothesis concerning relations between motivational climate, goal orientation and cognitive and affective outcomes. Mastery climate is linked to cognitive and affective responses both directly and through goal orientation. On the basis of findings can be suggested that promoting mastery oriented atmosphere should reinforce mastery orientation, enjoyment and positive perception of ability in youth athletes. Ego and task orientation appear to reinforce each other. Their co-existence is probably a good combination in competitive sporting environments. Performance climate and ego-orientation do not seem to have negative effects on enjoyment in this sample and ego-orientation appears to promote perceptions of competence.



P4.22

Psychosocial Factors and Physical Activity Associated Obesity in Adolescents.

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Maria João Almeida (University of Madeira, Portugal)
Ana Rodrigues (University of Madeira, Portugal)
Marco Fernandes (University of Madeira, Portugal)
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Several studies have shown that physical inactivity is a major cause for the increase in childhood obesity. On the other hand, psychosocial factors may partly explain inactive behaviours in young people.

Aim:

The purpose of this study was to determine to what extent past and present sport participation and some psychosocial factors were associated, and how those related to abdominal obesity.

Methods:

The total sample included 421 students, between 10 and 18 years of age, from a rural county in Madeira Island. All participants were measured for height, weight, waist circumference, triceps and calf skinfold. Having abdominal obesity (AO) was determined according to the criteria by Katzmarzyk et. al (2004). Health and weight perceptions, sport participation, motivations and barriers for physical activity were assessed by self-report.

Results:

Of all subjects, 34,9% were classified as having AO. Students who played organized sports had significant lower levels of AO ($p < .05$) than those who were not involved in sports. According to results, students with AO had a lower health perception, and reported lack of time ($p < .05$) and not being good at sports ($p < .01$), as the major barriers for being active, when compared to their counterparts without AO.

Conclusions:

When designing physical activity programs for students with obesity, psychosocial aspects such as time management skills, and activities that create opportunities for feelings of success should be considered.

P4.23

The self-determination theory model of behaviour change: A meta-analysis of studies in health-related contexts.

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Nikos Ntoumanis (University of Birmingham, UK)
Geoffrey C. Williams (University of Rochester, USA)
Cecilie Thøgersen-Ntoumani (University of Birmingham, UK)
Joan Duda (University of Birmingham, UK)
Edward Deci (University of Rochester, USA)

Based on self-determination theory (SDT), Ryan and colleagues (Ryan, Patrick, Deci, & Williams, 2008) outlined a model of behaviour change to explain relationships between antecedents and outcomes of motivation toward health behaviours. The model highlighted the importance of contextual (e.g., autonomy supportive) and personal factors in relation to the satisfaction of the basic psychological needs for autonomy, competence, and relatedness. In turn, the satisfaction of the basic needs is assumed to enhance psychological and physical health. In order to examine the proposed model and also the role of motivational regulations, a meta-analysis was conducted on SDT-based studies (number of sources = 165) within health care and promotion contexts, using the Hunter-Schmidt (2004) method. Correlations between scores of SDT-based construct and health outcomes (e.g., physical activity, smoking cessation, vitality, depression) were corrected for both sampling and measurement error. In line with SDT, moderate effect sizes were found between autonomy support and needs satisfaction ($r = .33$ to $.47$). Intrinsic life goals were also positively related to satisfaction of needs ($r = .22$ to $.53$). Moreover, low to moderate effect sizes were found between satisfaction of needs and autonomous



forms of motivation ($r = .20$ to $.59$). Effect sizes between needs satisfaction and health-related physical (e.g., physical activity; $r = .07$ to $.53$) or psychological (e.g., vitality; $r = .23$ to $.54$) outcomes were also in the expected directions.

P4.24

Can public health take the HIT? Impact of high-intensity interval training on affect in obese inactive women.

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Emily S. Decker (University of Kansas, USA)

Only 3% of obese women trying to lose weight report being physically active at the minimum recommended level (60 min daily). High-intensity interval training (HIT) is promoted as a way of combining the health and fitness benefits of high-intensity exercise and time efficiency. However, obese women report less positive affective responses compared to their normal-weight and even overweight counterparts, an effect that is accentuated at higher intensities. Thus, the purpose of this study was to compare the affective responses of obese women during a (shorter) HIT session and a (longer) moderate-intensity (MOD) session. Twenty-four obese and inactive women ($M = 39$ years) first completed a ramp test on a recumbent cycle ergometer to determine their ventilatory threshold (VT). They then completed two counterbalanced conditions: (a) a HIT session (4 iterations of 2 min at 85% of VT and 3 min at 115% of VT, for a total of 20 min) and (b) an isocaloric MOD session consisting of cycling at 90% of VT for 25 min. The Feeling Scale (FS) was administered before, during, and after exercise. The Physical Activity Enjoyment Scale (PACES) was administered post-exercise. The women reported less pleasure (FS) and enjoyment (PACES) during the HIT session than the MOD session. Based on findings that affect can predict physical activity, these less positive affective responses could result in reduced adherence. In conclusion, the long-term sustainability of HIT in this high-risk population seems questionable given minimal time savings and less positive affective experiences.

P4.25

A 12-month follow-up of a randomised controlled trial on the effectiveness of a Primary Care based Motivational Interviewing intervention on obesity, physical activity and CHD risk factors.

Sarah Hardcastle (University of Brighton, UK)

Objective:

To determine if lifestyle counselling, compared with usual care in a primary care setting, would result in maintained reductions in body mass index (BMI), and associated CHD risk factors and increases in physical activity (PA) among a sample of largely obese patients beyond the end of a 6-month intervention.

Methods:

Of the 334 patients who were randomised, 203 (61%) completed assessments at 18 months. On treatment and intent to treat analyses were conducted, in which the effects of up to five face-to-face counselling sessions (over a 6-month period) with a Physical Activity Specialist or Registered Dietician were compared with usual care.

Results:

Intention-to-treat analyses revealed significant differences between groups for BMI, DBP, Cholesterol and PA stage of change. Differences in bodyweight were approaching significance with controls increasing their weight by an average 1.41kg compared to 0.47kg within the intervention group. On-treatment analyses ($n=203$) revealed significant between group differences for BMI, DBP, cholesterol, total PA, vigorous PA and PA stage of change. Finally, an intent to treat analyses of outcomes by cardiovascular risk factor revealed significant improvements in weight, cholesterol and PA amongst the counselling group, compared to controls in those classified as obese, hypercholesterolemic, or insufficiently physically active at baseline.

Conclusion:

Important reductions in key cardiovascular risk factors were maintained at 18-months within the counselling group compared to controls. Adapted motivational interviewing Interventions hold promise for increasing PA and reducing CHD risk factors amongst patients in Primary Care.



P4.26

The One and the Many: International Evaluation of Workshops on Healing Through Multicultural Counseling.

Stephen Edwards (University of Zululand, RSA)

This research reports on the value of international workshops on healing through multicultural counseling. The workshops were conducted at universities in South Africa and the United Kingdom respectively with a total sample of 52 participants; 18 women and 27 men, with a mean age of 27.9 years and an age range of 20 to 51 years. The sample was culturally, linguistically and ethnically diverse. In the linguistically diverse South African sub-sample of 19 participants, there were 6 Xhosa, 5 Zulu, 4 English, 1 Afrikaans, 1 Setswana, 1 Shangaan and 1 Siswati). Although the British sub-sample was predominantly English speaking, 10 of the 32 participants described themselves as African, Black or of mixed descent, 3 as Muslim, 1 as Chinese, 1 as Polish and 1 as Norwegian. The sample consisted of 9 fully qualified psychologists, 10 professionally registered student psychologists and 32 third year sport psychology students. Quantitative evaluation indicating a mean perceived effectiveness rating of 8 out of 10 was supported by qualitative evaluation, which indicated a satisfactory degree of credibility, dependability and transferability with regard to students' most valuable learning experience and their suggestions concerning workshop improvement and the promotion of multicultural counseling globally. Implications for sport psychology are addressed with special reference to the role of such workshops in the training of applied sport psychology consultants.

P4.27

The Frequency and Affecting Factors of Smoking among the Students of Istanbul Technical University.

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University students have high rates of smoking problems however exercise has numerous physical and mental health benefits, and data's suggest that students who engage in exercise regularly are less likely to smoking heavily. This study was carried out to describe the prevalence of smoking and analyze the affecting factors on smoking among the students of Istanbul Technical University. This descriptive and cross-sectional study was performed among randomly selected 150 graduated students.

91.2% (n=137) of the students included in this study were men, %8.8 (n=12) were women. The lowest age was 19, the highest age was 26 and the mean age was 22.7. %72 (n=108) of the participants were from the department of maritime transportation and management engineering, 28% (n=41) of the students are from the department of marine engineering.

40.0% (n = 60) of those who never smoked are engaged in exercise.

This research has shown that the most important factor to begin to smoke is the stress with a ratio of 33.8% (n=22). The %28 (n=18) of the students have begun to smoke because of their social environment, %25 (n=16) just for pleasure, %5 (n=3) because of the affectation and , %3 (n=2) at school or ship environment. The increased fatigue who were inactive and smoking was not entirely due to their lower level of fitness.

P4.28

Intrinsic Motivation Of Athletes As A Function Of Coping Styles, Attributions And Personality Traits.

Bartholomeu Tôrres Tróccoli (University of Brasilia, Brazil)

Research has shown that athletes' motivation is a consequence of psychological and non psychological factors. The psychological factors involve characteristics of personality, coping and attribution styles. The relationships of those factors, however, are still a matter of dispute. In this study, a structural equation model was analyzed in which the motivation of athletes is a direct consequence of coping styles and causal attribution but an indirect consequence of personality traits. These later traits have an indirect influence on motivation through



the attribution of causality styles. Female and male athletes from different individual sports, (N = 58; mean age = 14,8; sd = 1,8 years), answered questionnaires of motivation, coping styles, attribution and personality traits and the results of the structural equation analysis suggested partial support for the proposed model. Minor respecification of the model revealed very adequate goodness of fit indexes (chi-square = 101,696; chi-square/df = 1,196; RMSEA = 0,06; confidence interval = 0,00 – 0,98), but others indexes revealed mediocre goodness of fit (GFI = 0,82; CFI = 0,79). Although the mixed results are probably a consequence of the small sample size, problems of the use of questionnaires in the field (interval of training sessions) and the distribution and validity of some of the variables, it is suggested that some support was found for the relationships proposed in the structural equation model.

P4.29

Factors that motivate South African non-elite athletes to start and continue participation in endurance sport.

Ben Steyn (University of Pretoria, RSA)

The individual motivation to start and continue participation in endurance sport in South Africa has not been studied to a great extent. The aim of this study was to determine the factors that motivate individuals to start participating and thereafter continue participating in endurance sport. A qualitative approach was used. A sample of 53 non-elite endurance athletes completed an open ended questionnaire that was specifically developed for this study. Interviews were also employed after the completion of the questionnaire. The results indicated that the factors that motivate individuals to start participating in endurance sport are the challenge, a sense of achievement, self-knowledge, self-actualisation, improved health, and relaxation. The factors that motivate the athlete to continue with participation in endurance sport are the challenge, a sense of achievement, self-knowledge, self-actualisation, social, enjoyment, improved health, adventure and being in nature. It was interesting to find the similarity between the factors that motivate athletes to start participating in endurance sport and the factors that motivate them to continue participation in endurance sport. Not only are the factors similar in meaning, but also in their importance as motivators. Of all these identified motivators, the most significant factors seem to be the challenge, a sense of achievement, self-knowledge and self-actualisation. These four factors also seem to be interrelated and form a relationship that might be used to explain the motivation behind continued participation in endurance sport.

P4.30

Inter-relationships between the Motivational Climate and Cohesion in Basketball and Handball.

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Isaura Alves (Sport Sciences School of Rio Maior and Research, Portugal)

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The aim of this work is to study the relationship between motivational climate and cohesion in 979 athletes of basketball and handball, age between 11 and 16 years, all participant in the national championship of the Portugal. Portuguese versions of the Motivational Climate Scale for Youth Sports (MCSYS, Smith, Cumming, & Smoll, 2008) and the Group Environment Questionnaire (GEQ, Carron, Widmeyer, & Brawley, 1985) were administered to athletes by team representatives at a team practice during a one-week target period at approximately the mid-point of the competitive league season.

The data were analyzed through study of Pearson's correlations and linear regression with $p < .005$. The correlations reported that perceptions of task involving climate is positive and significant related to level of social and task cohesion, on the other hand when the motivational climate was perceived ego involving, these two dimensions have proven inversely proportional to the cohesion perceptions of the teams.

A subsequent analysis by linear regression confirmed results of the correlation confirmed that in fact the perceptions of motivational climate were strong predictors of cohesion, especially when the coaches created a task climate of motivation.

Findings suggest that for sport participation to facilitate athlete cohesion, the sporting environment should be marked in its task-involving features.



P4.31

Prediction of Intrinsic Motivation and Sports Performance: Using 2 × 2 Achievement Goal Framework.

Chiung-Huang Li (Ming Chuan University, Taiwan)

The purpose of this study was to examine the prediction of 2 × 2 achievement goals on intrinsic motivation and performance in handball. Participants played by 164 high school athletes. All completed the 2 × 2 Achievement Goals Questionnaire for Sport and the Intrinsic Motivation subscale of the Sport Motivational Scale, the coach in each team rated their athletes' overall sports performance. Using simultaneous regression analyses, mastery-approach goals positively predicted both intrinsic motivation and performance in sports, whereas performance-avoidance goals negatively predicted sports performance. These results suggest that athletes who pursue task mastery and improvement of their competence perform well and enjoy their participation. In contrast, those who focus on avoiding normative incompetence perform poorly.

P4.32

Motivational Perspectives: Goal Orientation Perceptions.

Cláudia Goulart (Universidade de Brasília, Brazil)

Introduction:

The purpose of this study is to examine the achievement goals at situational level of young Brazilian students in their physical education classes. The Achievement Goal Questionnaire (AGQ), applied in this study, focused in four situational goals: mastery, performance-approach, performance-avoidance and social approval; consequently measuring the relationship between student individual differences at achievement goals.

Methods:

The sample consisted of 595 students, 14.11 years old \pm 2.10, from regular P.E. In this study, 49.6% of the participants were boys and 50.4% girls.

Results:

The results showed that boys and girls had different perceptions of their performance at P.E. classes: boy students showed a significantly higher performance-approach compared to girl students ($p < 0.00$). On the other hand, girl students showed a significantly higher performance-avoidance compared to boy students ($p < 0.00$). No significant differences emerged in mastery and social approval.

Conclusions:

In summary, more research and studies on goal achievement at Brazilian schools must be conducted as to find answers to the presented paradoxes. Such surveys could enrich the knowledge of P.E. teachers, therefore reflecting in a positive manner over his/her teaching abilities, and consequently revitalizing the classes. In addition, other types of research, for instance, longitudinal studies, can improve the results, analyses, and conclusions on situational school studies.

P4.33

Physical Activity and Motivational Climate and Students' Perception of Motivational Climate in Physical Education Lessons.

Lahtinen Hanne (University of Jyväskylä, Finland)

Students' experiences about school physical education plays an important role in the socialisation process into a physically active lifestyle. There is insufficient knowledge about the components of psychological climate affecting students' physical activity. According to the self-determination theory, intrinsic motivation towards the activity at hand will be enhanced if individuals perceive competence, autonomy, and social relatedness during physical education classes. According to the achievement goal theory, perceptions of competence may arise from intra-individual comparison, and/or from inter-individual comparison. The participants of the study were 525 Finnish students at Grades 5 to 9. The questionnaire consisted of the Intrinsic Motivation Climate in Physical Education Questionnaire and self-estimated total physical activity at school, in sport clubs, and during leisure time. The correlations between the dimensions of motivational climate and physical activity were 0.24



for girls and 0.16 for boys in the case of perceived autonomy involving climate, 0.25 and 0.23 for social relatedness, 0.23 for girls and 0.30 for boys for task involving climate, and 0.08 for girls and 0.16 for boys for ego-involving climate. The results show that pupils' physical activity in school physical education in Finland is related to their perceptions of motivational climate. This reflects a serious challenge for PE teachers to develop the class climate so that especially pupils with low level of sport skills would get positive affective experiences. High levels of perceived autonomy, social relatedness, and task involvement seem to be highly associated with pupils' physical activity.

P4.34

Research of Sport Motivation and Goal Orientations among Collegiate Basketball Players.

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Shih-Hsien Yen (National Taiwan Sport University, Taiwan)
Kun-Wei Tu (National Taiwan Sport University, Taiwan)
Tai-Wei Hsiang (National Taiwan Sport University, Taiwan)
Yu-Kai Chang (National Taiwan Sport University, Taiwan)

The purposes of this study were to a) compare the differences among selected demographic variables on sport motivation and goal orientation among collegiate basketball players; b) to examine the cognition of collegiate basketball players on their sport motivation and goal orientations. The participants were 260 collegiate basketball players in the 2009 University Basketball Association. Sport Motivation and Goal Orientation Questionnaires were applied. 234 valid questionnaires were returned. An independent sample t-test, one-way ANOVA, and importance analysis were computed for data analysis. The results indicated that there is a significant gender effect on sport motivation in terms of Sport pleasure and learning, and Self-realization. On the other hand, there is a significant representative level effect on goal orientation in terms of Lack of a specific goal, Self-realization, and Self-breakthrough. The top three importance factors of sport motivation by order are to: a) get pleasure from learning new skills of specific sports; b) enjoy the feeling of completely getting involved in specific sports; c) savor the feeling of improving through participating in sports activities. The top three importance factors of goal orientation by order is: a) when I try to do my best; b) when I want to practice more because of what I learned; c) when I try hard to learn a new skill. The results suggest that players with different demographic backgrounds have different sports motivations and goal orientations. In addition, players show differences in cognition regarding factors of sport motivation and goal orientations.

P4.35

The personal project as a tool to assess the motivation towards physical activity among women physically active adults.

Margarita Gozalo Delgado (Universidad de Extremadura, Spain)
Paulina Amelia Fuentes Flores (Universidad de Extremadura, Spain)
Narcís Gusi Fuertes (Universidad de Extremadura, Spain)

The motivation for participation in activity programs physical in adult women is an issue that arouses great interest, because it is a very population is often sedentary, having engaged in Physical and Sports is affected by multiple barriers. In many times, the abandonment of physical activity is not caused by the lack of motivation or quality of activity in which we participate, but because of the difficulties that this population has to reconcile this objective with other demands roles and responsibilities. Since its Social-model ecological, Little (1987), assumes that the vision of individual behavior modulated by a number of sources of influence. The contribution of this author gives us a vision of the subjective value the individual brings to their own goals and a specific methodology for evaluation. Also posits a relationship between feelings of subjective well-being, the Self-concept and assessment of personal goals (Little, 1989). This study explore the relationship between Subjective well-being, physical self-concept and the Personal Project in 137 urban women, physically active living in Cáceres.

The participants were recruited in sports facilities, fitness centres. Instruments: sociodemographic questionnaire (Fuentes, Gozalo, and Gusi Vizuete, 2009) based on previous works as the "Survey of the Spanish sporting habits" (García Ferrando, 2005), a Physical Self-Concept Questionnaire Physical: Cuestionario de Autoconcepto Físico (CAF) by Goñi, Ruiz de Aza and Rodriguez (2004) and the Spanish version of the Satisfaction Scale with Life, adapted by Díaz Morales (2001) from the original of Diener, Emmons, Larsen and Griffin (1985). The methodology of Little (1983) was used to assess the personal ambitions and explore the



dimensions of project personnel and their motivations for the practice of Physical exercise.

P4.36

Perceived Motivational Climate, Needs Satisfaction, Motivational Regulations and Psychological Well-Being in Elite Hurlers.

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Lintunen Taru (University of Jyväskylä, Finland)

Previous research has found a positive relationship between perceptions of task-involving athletic environments and participants' degree of need satisfaction. Task-involving climates have also been found to predict self-esteem in athletes [1] and elite dancers [2]. In contrast, ego-involving climates have been associated with more negative outcomes (e.g., anxiety) [3]. This study aimed to: (1) explore perceived motivational climate, need satisfaction, motivational regulations, anxiety and self-esteem in elite hurlers, and (2) investigate the relationship between perceived motivational climate, need satisfaction, motivational regulation and psychological well-being. Participants were 60 players (M age = 24.2 ± 3.86 yrs.) from three different Inter-County hurling teams, with a mean of 18.19 ± 4.36 yrs. of sport experience. The players completed a battery of questionnaires tapping key variables.

Overall, elite hurlers perceived their environment as being more task- than ego-involving, reporting high levels of all three basic needs, intrinsic motivation and positive psychological well-being. Regression analyses revealed that perceived task involving climate positively predicted competence ($p < .05$), autonomy ($p < .05$), and relatedness ($p < .01$). Intrinsic motivation was also positively predicted by perceptions of task involving climate ($p < .01$). However, amotivation was negatively predicted by task-involving climate ($p < .05$). As expected, a perceived ego-involving climate was found to be a positive predictor of cognitive anxiety ($p < .01$), whereas self-confidence was positively predicted by perceptions of competence ($p < .05$) and relatedness ($p < .01$). These results give an insight into the psychological characteristics of elite level hurlers. In addition, the study adds further credence to the importance of creating a task-oriented climate to enhance motivation and psychological well-being.

P4.37

Psychological evaluation of gender identity, self-esteem and achievement motivation in women practicing and not practicing sports.

Patrycja Sroka-Oborska (Uniwersytet Kardynała Stefana Wyszyńskiego, Poland)

Background:

The aim of the paper was to check out whether there is a correlation between gender-role identity, self esteem and need for achievement and whether there are differences between mentioned above variables among two groups of women: sportswomen and women not practising sport.

Material and methods:

The study involved female volleyball players, female handball players (N=37) and female students not practising sport (N=37). There were used the IPP questionnaire by Alicja Kuczyńska, the SES questionnaire by Rosenberg and P-O questionnaire by Widerszal – Bazyl.

Results:

There was significant statistically difference noticed in the level of self esteem, perseverance and masculinity between sportswomen and female students not practising sport. Examined female volleyball and handball players has got significantly higher level of self esteem, perseverance and masculinity than female students not practising sport. It was confirmed that sportswomen mostly represent androgynous type of gender-role identity and students represent feminine type of gender- role identity.

Conclusions:

The analysis of results, shows that female handball and volleyball players differs from female students not practising sport because they are able to act either as a stereotypical men or women, and they represent higher level of self esteem and perseverance. That means they can act more effectively and they are focused on success.



P4.38

Influence of the stutter step on the penalty taker–goalkeeper dynamics in the penalty kick situation in association football.

Cristina Fonseca (Technical University of Lisbon, Portugal)

Duarte Araújo (Technical University of Lisbon, Portugal)

Ricardo Duarte (Technical University of Lisbon, Portugal)

Bruno Travassos (Technical University of Lisbon / University of Beira Interior, Portugal).

The aim of this study was to investigate the skill of deceiving an opponent with a stutter step during penalty kick in football association. In the penalty kick task the penalty taker and goalkeeper form a dyadic sub-system (Lopes et al., 2008). To study the effect of the stutter step on this task, twenty-two penalty kick situations were performed under two conditions for the penalty-takers: i) “free condition” where no instruction was given to the player; and ii) giving the instruction to the player to performed the “stutter step and mislead the actions that may reveal when the penalty-taker will kick the ball”. Players’ motion was captured by digital video camera and for calibration and extraction of x and y virtual coordinates of players TACTO software at 25 Hz (Fernandes, Folgado, Duarte & Malta, in press) was used. Virtual coordinates were transformed into real through DLT method and the relative phase analysis was calculated with Hilbert transform (Palut & Zanone, 2005) to observe space-time coordination patterns of the system. Preliminary results demonstrated that in all conditions the goalkeeper and the penalty taker are coordinated. Also the goalkeeper’s decision-making seems to be guided by the penalty taker’s speed of approaching to the ball. Relative-phase analysis indicated that the ability of the penalty-taker to manipulate the approaching speed to the ball revealed an increase of the lag between the goalkeeper’s action and the penalty taker’s action. This indicated that the actions of the penalty-taker mislead the goalkeeper’s perception-action coupling, changing the dynamics of the dyadic system.

P4.39

Nonverbal Intelligence Of Soccer Players According To Their Injury, Yellow And Red Cards.

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Turhan Toros (Youth Sport Provincial Directorate, Turkey)

Theory and practice of sport in general and sport psychology in particular, have much to say about stress, anxiety and fear and they have little to say about courage in sport from the perspective of positive sport psychology. Purpose of the research was to analyze courage of soccer players (1.Determination, 2.Self-Confidence/Mastery, 3.Assertiveness, 4.Venturesome/Coping with Fear, and 5.Altruistic/Sacrifice Behavior measured by Sport Courage Scale-31/SCS-31) according to their selected performance variables (amateur-professional, captain-not captain, substitute-not substitute, selected national-not selected national). Recently developed “SCS-31” and “Information Form” for related independent variables were administered to 540 amateur and professional soccer players aged 13 to 23 with an average 4.76 years official soccer license. Data was analyzed by one way ANOVA, Shchefe Test and t statistics. Results indicated that: 1) Comparisons of Amateur-Professional ($p < .05$) and Substitute-Nonsubstitute ($p < .04$), soccer players revealed meaningful differences related to Self-Confidence/Mastery subscale of SCS-31. Professionals from Amateurs and Nonsubstitutes from Substitutes have higher Self-Confidence/Mastery scores in soccer. 2) Comparisons of Substitute and Nonsubstitute soccer players showed the meaningful differences ($p < .01$), related to Determination subscale of SCS-31. Nonsubstitute players have higher Determination scores than Substitute players in soccer. 3) Comparisons of Substitute-Nonsubstitute and Captain-Noncaptain soccer players yielded meaningful differences ($p < .01$), related to Assertiveness subscale of SCS-31. Nonsubstitutes from Substitutes and Captains from Noncaptains have higher Assertiveness scores in soccer. 4) Comparisons of Substitute and Nonsubstitute soccer players revealed meaningful differences ($p < .01$), related to scores of Total SCS-31. Nonsubstitute players have higher Total SCS-31 scores than Substitute players. Multiple comparisons of mean differences between SCS-31 total scores and level of play (professionals, 18 and above amateurs, Under 17, Under 16, Under 15, Under 14 and Under 13) also revealed meaningful differences related to Determination, Venturesome and TOTAL scores (Determination; $p < .005$, Venturesome; $p < .01$, Total; $p < .04$). Results showed that: 1) Players 18 and over have higher Determination scores than players Under 16 and Under 13. 2) Players Under 17 have higher Venturesome scores than players Under 13. 3) Players Under 15 have higher Venturesome scores than players Under 13. 4) Players 18 and over have higher SCS-31 TOTAL scores than players Under 16 and Under 13. More research is needed for more conclusive results related to courage and performance using different performance measures in soccer.



Keywords:

Courage, Soccer, Performance, Self-Confidence, Mental Toughness, Assertiveness, Coping, Competitiveness, Achievement Motivation, Sacrifice Behavior

P4.40

The effects of performance routines on success rates in soccer penalty kicks.

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Stephanie Hanrahan (University of Queensland, Australia)

John Mclean (University of Queensland, Australia)

Research regarding the routines athletes use before the execution of motor tasks has focused on tasks performed in stable and predictable environments. There is the need to investigate athletes' routines prior to a task where it's impossible to predict all events. An example is the penalty kick in soccer where the player can't predict the actions of the goalkeeper. A goalkeeper can clap, scream, or make use of other strategies to distract the kicker and can dive to either side after the ball is kicked. We hypothesized that pre-performance routines would increase success rate in penalty kicks in soccer. This study involved a semi professional male soccer team, with 21 athletes aged between 21 and 35 ($M = 25.14$). The study compared penalty kick outcome (goal, out, and defended) and kick direction for five kicks with the athletes using their regular routines and five without routines. Kick direction was analysed with the goal divided into six parts, with values ranging from 1- 3 inside the goal, and the area outside the goal having a value of zero. Random questions were asked before the kicks without routines to make sure the athletes could not engage in their regular routines. The results indicated that with the use of routines the mean score for ball direction was significantly higher (medium effect size). Hence, this study indicated that there is a positive influence of performance routines before the execution of a motor task in a semi-stable and unpredictable setting, the penalty kick in soccer.

P4.41

Goal size effects on tactical behaviour of football players.

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This study investigated effects of goal size on expression of players' tactical behaviours in association football. Participants were 18 players and 2 goalkeepers in the Portuguese national U-17 championship (mean \pm SD: age=16.5 \pm 0.5 yrs, playing experience=7.05 \pm 1.7 yrs). A Gk+3 vs. 3+Gk football sub-phase was performed on a pitch of 36 x 27 m using three different goal sizes: (i) futsal goals (3 x 2 m); (ii) 7-a-side football goals (6 x 2 m); and (iii) association football goals (7.32 x 2.44 m). Performance in all games was recorded with a video camera and 120 offensive patterns of play were analyzed in each goal condition. Tactical behaviours of participants were recorded through notational analysis with an ad hoc instrument constructed to codify players' actions and the spatial interactions between the teams. Lag sequential analysis with the software package SDIS-GSEQ scrutinized sequential relations, associations and dependencies between actions observed diachronically. Z-scores > 1.96 were considered as a measure of dependency between variables ($p < 0.05$). Overall data revealed that ball repossession tactics provided favourable conditions for immediately attacking the opponent's goal when official football goals and 7-a-side goals were used. 7-a-side and 5-a-side goals elicited greater frequency of ball repossession actions by participants in central areas of the field, reflecting team strategies to dominate the mid-field zone. 5-a-side goals induced greater build-up of play since shots were dependent on "1 or more players vs. Gk" situations to occur. This requisite player overload was not easily facilitated by direct ball recovery tactics. Official football goals afforded more shots than other goals since players only needed to promote a misalignment with a nearest opponent and the goal in order to shoot. These findings showed how the use of different equipment constraints can shape emergent intentions, actions and perceptions of players in team game practices.

P4.42

Monitoring of the pre-season preparatory training by the mood profile and physical performance in the male soccer players.

Pejman Taghibeikzadeh Badr (Azad University, Iran)



Aim of the present study is to monitor the pre-season preparatory training effectiveness by the mood profile and physical performance. In this study 15 male soccer players mean age of 25 ± 2.21 yr, height 180.27 ± 2.58 cm, weight 81.13 ± 5.49 kg and 5 years playing experience participated voluntarily. The training program was concurrent (strength-endurance) method, 4 weeks progressive training and the 5th week declining.

Assay of mood and physical performances in the first week, end of 4th and 5th weeks was done. Variance of analysis with repeated measurements showed that the aerobic and anaerobic capacity did not change significantly after progressive training. But after taper period (the decline of training load) both indices increased significantly. While the maximum strength at the time of progressive training load, had significant increase. This increase was observed in taper period. Four weeks progressive training load, except on fatigue mood, had insignificant effect on mood profile.

After taper period, the fatigue and mood depression showed significant reduction compared to the beginning of the training period. The overall results show that aerobic and anaerobic capacity compared to the reduction of training load is more sensitive than the time of progressive training load. Among the 6 mood factors, only the fatigue and depression are more sensitive to the change of training load.

P4.43

Decision-making and gaze behavior in young football players: “Quiet eye” as a characteristic of sport talent?

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Decision making in sports has been extensively studied over the last decades. Within this field, our research question was whether the phenomenon of a “quiet eye” (Vickers, 2007), can be identified as an indicator of expertise in young football players.

A video test battery, consisting of 12 offense scenes and providing the possibility to pass to one of two teammates (Höner, 2005), was presented to 24 players of U15-, U16- and U18-teams from the perspective of the attacking midfielder. The player had to pass a ball either directly the best positioned teammate or into his run-path as soon as a reliable decision could be made. Correctness scores and movement initiation times were calculated. Additionally, gaze data was gathered (start, end and duration of “quiet eye”, numbers of fixations/saccades and mean fixation times).

Correct and false responses differ with respect to movement initiation (correct: later, $p < .001$) and the quiet-eye duration (correct: longer, $p < .05$). Stepwise regression analyses with correctness as criterion identify a late movement initiation as the most important ($R^2 = .68$) and a long quiet eye as the second most important predictor ($R^2 = .73$) of correctness. As – contrary to quiet-eye duration ($r = .31$) – movement initiation is highly correlated with age ($r = .83$), it seems sensible to further explore quiet-eye duration as a characteristic trait of talents in sports.

P4.44

Footballers’ decision making behaviours in creating goal-scoring opportunities.

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Decision-making processes can be understood through the study of functional relations of individuals (i.e., the players) as they engage with their surroundings during goal-directed behaviour (e.g., the players’ action paths) (Araújo et al., 2006). In this study we investigated decision-making behaviours of association football players in two football sub-phases. Particularly, we investigated how individuals created goal-scoring opportunities in 1vs1 and 3vs3 representative performance contexts. Eight male football players (11.8 ± 0.4 years) performed 1vs1 and 3vs3 tasks, in which the attacking player/team tried to penetrate into the scoring area (i.e., behind the



defending player/team) to score a goal. Players' movement trajectories (25Hz) were obtained using motion analysis techniques (Duarte et al., 2010). Interpersonal distance and relative speed between players, and also inter-centroid distance (i.e., distance between teams' centre) and relative stretch index (i.e., relative dispersion of players around the team's centre) were measured in 1vs1 and 3vs3 sub-phases, respectively. Results from the 1vs1 task showed that low values of interpersonal distance between attackers and defenders and increasing exponential values of relative speed characterised successful penetration into the goal scoring area by attacking players. Under the 3vs3 performance task constraints, the collective decisions of attackers to penetrate the scoring area were associated with low values of inter-centroid distances and increasing positive values of relative stretch index. These findings suggested that decision-making behaviours of performers emerged under critical values of specific relational variables (i.e., under stable task conditions) in different football sub-phases.

P4.45

The Basketball Coach And The Behaviours Showed In Competition.

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Leonardo Montiel (Universidad Autonoma de Madrid, Spain)

Pablo Jodra (Universidad Alfonso X, Spain)

The coach is one of the protagonists in the field of sports. However, there are a few case studies that specify the most frequent types of behaviours showed by this group in the competition. That is the reason why this case study aims to conduct a descriptive analysis of the behaviours in a sample of coaches from different categories and genres, working from the most frequent behaviours (general technical instructions; in view of an error, reinforcement and not reinforcement, general encouragement; seeing an error, punishments, among others) observed in coaches during competition from the instrument Coach Behavioral Assessment System (CBAS) by Smoll, Smith y Hunt (1977).

P4.46

Effect of Servant Leadership in Sport on Satisfaction Level of Handicapped Athletes.

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Guner Ekenc (Sports Management, Turkey)

Murat Tekin (Educational Science, Turkey)

Gokhan Caliskan (Health Science, Turkey)

The aim of the current study was to investigate the effect of mentoring behaviours of trainers on sportsman satisfaction. Participants were 241 handicapped athletes from Amputee Football League and First League of Wheelchair Basketball in the season of 2009 – 2010. Instruments were used Mentoring Scale at Sport (MSS) and Athletes Satisfaction Scale (ASS). In order to analyse the data, frequency, Regression Analysis, Kruskal Wallis Test, and One Way Variance Analysis (ANOVA) Test were used. Tukey Test was also applied to determine the difference between the groups. Results revealed that there was a positive and significant relation between the mentoring levels and satisfaction of trainer, individual satisfaction, satisfaction of team, according to MSS dimensions ($p < 0.05$) for both League players. It was also determined that the difference between mentoring score means of amputee footballers and wheelchair basketball players depending on the variable of branch was significant ($p < 0.05$) As for mean values; mentoring levels of amputee footballers were higher compared to those of wheelchair basketball players. The difference between MSS sub-dimensions of amputee footballers and wheelchair basketball players depending on the variable of branch was significant ($p < 0.05$). As for the mean values, amputee footballers had a higher level at the satisfaction of trainer, individual satisfaction and satisfaction of team compared to wheelchair basketball players.

It was found that mentoring behaviour of trainers had a positive effect on the satisfaction of athletes.

P4.47

Reflections on Training Inclusive Coaches using Sitting Volleyball.

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Tatiana V. Ryba (Aarhus University, Denmark)

Pauli Rintal (University of Jyväskylä, Finland)

The adoption of the United Nations Convention on the Rights of Persons with Disabilities (2006, 2008) and



rise in popularity of the Paralympics (Brittain, 2009), prompts for more research focus on the psychosocial aspects of inclusive sports aided by the Salamanca Agreement (1994). Following on from previous studies in adapted sports literature, this study reflected on previous practices and current issues in the training of inclusive sports coaches. An intervention programme was aimed at increasing coaching-efficacy levels, which can prompt coach effectiveness and ultimately contribute towards activating pupils whom may otherwise be less motivated to take part in physical activity. In order to accomplish the goals of this intervention, a total of 4 hours of training was required. One hour practicum of working with pupils with and without disabilities, using the sport of sitting volleyball which pertained to the coaching-efficacy sources. Action research strategies were used to engineer a successful intervention. Cooperation with the local community and sports bodies permitted delivery. Coaching-efficacy sources ensured a theory driven experience, while discrimination concerning disability sports proved to be vital during the application. Participants felt the practicum was the most valuable part of the training in relation to their coaching-efficacy. The problems of inclusive sports programs affecting individual coaching-efficacy require more investigations. Training inclusive sports to novice coaches uses a combination of strategies that combine coaches, athletes and significant others. Understanding a mechanism of inclusion would improve chances of physical literacy in young people's lives.

P4.48

Non-Verbal Communication In Basketball Coaches.

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Pablo Jodrá (UAX, Spain)

Constanza Pujals (Universidad Autónoma de Madrid, Spain)

The definition of skilled and effective coach has been a subject of discussion in recent decades (Côte and Gilbert, 2009), one of the elements of this profile is the non-verbal language (Zourbanos, Hatzigeorgiadis and Theodorakis, 2007), an important channel of communication between coach and athlete through which, valuable information is transmitted about the competition, and represents a reference to the athlete in terms of feedback of their performance (Anshel, 1995). One of the instruments commonly used to evaluate the coach-athlete communication has been the Coach Behavioral Assessment System or CBAS (Smoll, Smith and Hunt, 1977), with that can register various forms of communication competitive contexts, in this way, it's useful to add a section to evaluate the quality and frequency of non-verbal communication that occurs between coach and athlete. From this, the aim of this study is analyze this non-verbal communication and relationship with the different sections that define the coach's behavior. To do this, the CBAS was used with an additional category about non-verbal communication as an instrument of observation in a sample of 100 basketball coaches in the development of games.

P4.49

Relationship between coaching style and motivational regulations in young footballers.

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Tania Jauni (Universitat de València, Spain)

Juan Mercé (Universitat de València, Spain)

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Isabel Balaguer (Universitat de València, Spain)

Grounded in the Self-Determination Theory (Deci & Ryan, 1985; Ryan & Deci, 2000), the aim of the present study was to examine the relationship between the perceptions of Coach Style (Autonomy supportive and Controller) and the motivational regulations of young football players. In this study, 725 male footballers ($M = 12.57$, $DT = 0.54$) completed the Spanish versions of: Sport Climate Questionnaire (SDT, Sport Climate Questionnaire, n.d.; Balaguer et al., 2009), Controlling Coach Behaviors Scale (CCBS, Bartholomew et al., 2010; Castillo et al., 2010) and Sport Motivation Scale (Pelletier et al., 1995; Balaguer et al., 2003; 2007). Structural Equation Modelling (SEM) analysis revealed that Autonomy Support positive and significantly ($p < .05$) predicted intrinsic motivation ($B = .70$), identified regulation ($B = .47$), introjected regulation ($B = .35$) and external regulation ($B = .21$), and negatively predicted amotivation ($B = -.19$). Coach Controlling Style negative and significantly ($p < .05$) predicted intrinsic motivation ($B = -.14$) and identified regulation ($B = -.17$), and positively predicted introjected regulation ($B = .30$), external regulation ($B = .49$) and amotivation ($B = .63$).



Supporting the Self Determination Theory, social contextual conditions created by the coaches facilitated versus thwarted the natural processes of self-motivation in young footballers. Specifically when social factors were respectful with one's autonomy, athletes were more self-determined and when social factors undermined autonomy, lower levels of self-determination were exhibited.

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P4.50

Transformational Leadership in Sport: A qualitative analysis of the effective leadership behaviours in cricket.

Matt Smith (University of Chichester, UK)

Transformational leadership involves the building of relationships with followers based on personal, emotional, and inspirational exchanges, with the goal of developing followers to their fullest potential (Bass et al., 2003). Research exploring leadership in sport research has tended to focus on quantitative methods. For example, Callow et al. (2009) found certain key leader behaviours had a significant relationship with task cohesion in interactive sports teams. The purpose of this study was to use qualitative methods to explore players' perceptions of leadership behaviours of their captains and coaches. The present study therefore provides rich, in depth data that describes actual behaviours that players consider to be effective, and explores how and why these behaviours impact on team and individual outcomes.

Eleven professional county cricket players from four different counties in England were individually interviewed. The players were asked to describe the leadership behaviours of their captains and coaches, and to explain their own perceptions of how these behaviours impacted on themselves individually and their team as a whole. Inductive content analysis revealed a range of effective behaviours that leaders exhibited in training and preparation sessions, as well as in competitive matches. These behaviours included the way the leaders communicate their vision for the team, the way individual players feel supported and recognised by the leaders, and how consistency of communication from the leaders serves to develop positive, high performing cultures within sides.

P4.51

Leadership Style and emotional intelligence of Managing Directors of the national teams.

Mohamed Fadi Allah (Helwan University, Egypt)

The purpose of this study was to investigate the statistical relationships between emotional Intelligence and leadership style, through theoretical and empirical discussion; Surveys were administered to 80 participants from a cross-section of Managing Directors of the national teams. Participants completed the Scale Trait Emotional Intelligence. By using an adapted version of the Schutte Self-Report Inventory (SSRI; Schutte et al., 1998), while using Multifactor Leadership Questionnaire (MLQ Form 5X) to measure leadership style. The Spearman rank correlation was used to test the relationship between leadership styles and emotional Intelligence.

P4.52

Influence of sets of coaches on sport results of young sportsman.

Valery Malkin (Ural Federal University, Russian Federation)

The research organized at school of a Olympic reserve has shown, that almost 70 % young sportsmen instability of sport outcome and many from them leave sport, having not realized their possibilities completely. The reason of such situation was revealed during research of in and mutual relation between the sportsmen and coaches in sports groups. It was revealed 2 types coaches: the coaches are having set on sports result only and coaches with professional - pedagogical set. The deterioration relation between coaches and sportsmen was observed in groups coaches with set on result. It was marked the reduction of estimations on emotional (4,4 and 2,6 <0,001), behavioural (5,6 and 3,2 < 0,001), professional (6,4 and 3,1 < 0,001) components of the relations. This leads to the increase of parameters "of absence of co-operation" (4,1 and 5,6 <0,01), "disagreement" (4,2 and 6,1 <0,01)", coldness in the relations" (5,0 and 6,4 < 0,001)) and "dissatisfaction" (4,2 and 6,3 < 0,001) in sport activity. On the contrary the deterioration in mutual relation



between coaches and sportsmen is not observed in groups of the coaches with professional - pedagogical set. Higher and stable level of sports results at the sportsmen in groups of the trainers with professional pedagogical-installation was simultaneously marked. It allow to assume that lower results and higher elimination of the sportsmen in groups of the trainers with set on only on sports result is explained also by that adverse psychological climate, which develops in these groups.

P4.53

Survival as a sport. Benefits for youths psyche and development.

Agnieszka Skorupa (University of Silesia, Institute of Psychology, Poland)

The most generally definition of the survival is the art of staying alive, however, the meaning of this term is much more complicated. Among many interpretations it can be treated as a sport, as a rehabilitation method, as a philosophy of living, as a part of deeply ecological lifestyle, as a part of military tactics and many others. In my perception of survival I mainly focus on its sport interpretation, finding into it an antidote to modern social pathologies from which are suffering young people. Youths have a spontaneous need of involving in different activities what is a natural consequence of social and biological growing up. Nowadays young people oscillate between overinvolvement and apathy, depression or complete lack of participation in any constructive activities. Survival as a way of active spending of free time occurs to meet successfully youths needs. I carried out comparative researches based on pre-test – post-test method analyzing the survival impact on youths psyche and development. 30 participants of survival camp (age: 13-18) were examined by General Scale of Effectiveness Sense GSES (created by R. Schwarzer, M. Jerusalem i Z. Juczyński) and quality research method of Finishing Sentences Method. It turned out that survival is significantly helpful in creating own positive picture, developing feeling of effectiveness and showing constructive ways of spending free time (with the strong impact on the sport activities). As the research shows this positive psychological effects were projected on everyday youths experiences.

P4.54

Lifestyle Influence on Personality of Seniors Aged 60 to 85. Pilot descriptive study of a group of seniors.

Bela Hatlova (University of J. E. Purkyne, Czech Republic)
Jana Šmídová Šopíková (Charles University, Czech Republic)

Abstract:

Quality of life and overall life satisfaction in old age are influenced by personality composition and life attitudes which have been created by people in the course of their entire life. Movement activities may contribute to a higher quality of life of elderly people and to prevention of certain negative accompanying effects of this age. In 2007 and 2008 we made a study which tries to describe differences in the personalities of seniors with active movement, over 60 and over 75 in comparison with other adult population. In our investigation we monitored groups of senior males and females who actively practise team performance of body exercise in the Sokol environment, a Czech sports organisation established in 1862, whose activity was always connected with social activities in history. For this intent we used a comparison with the help of NEO Five-Factor Inventory (Costa, P.T. and McCrae, R. R.: 1992; ĚR: Høebièková 2001).

P4.55

The Dynamics of Psychological Momentum: A Quantitative Investigation of Competitive Anxiety and Self-Confidence in Ecological Sport Situations.

Christophe Gernigon (Montpellier I University, Laboratory Epsilon, France)
Walid Briki (Montpellier I University, Laboratory Epsilon, France)

The present research retrospectively examined the dynamics of competitive anxiety and self-confidence, as well as the relationships between these variables, in actual experiences of psychological momentum (PM). Using the video of one of their recent experiences of PM, male national level competitors of table tennis (Study 1) and of swimming (Study 2) expressed on a computer their moment-to-moment level of competitive anxiety and self-confidence. The adjustment and the derivative functions of the time series of the collected data showed that competitive anxiety and self-confidence decreased and increased, respectively. However, the



patterns of these variations were generally more explosive in swimming than in table tennis. Consistent with the assumption that the experience of momentum drives the fluctuations of competitive anxiety and self-confidence in opposite ways, correlation analyses revealed a strong negative relationship between these variables. These findings offer new insights into the dynamics of PM and its ecological embedment.

P4.56

Positive psychology contributions in sport psychology ambit.

Gisele Maria Schwartz (LEL-Laboratory of Leisure Research/DEF/IB/UNESP/RC, Brazil)

The sport psychologists tend to focus more attention on the problems and human weaknesses, rather than on the perspective of prevention and revitalization of positive attitudes. Thus, this qualitative study was developed through a literature review aimed to reflect on the contributions of Positive Psychology in the field of Sport Psychology. Based on a literature analysis it can be evidenced that Positive Psychology focuses attention on the optimization of psychic functioning, and it can be effectively applied in sports training field, complementing the interventions focused on psychopathological variables, due to the possibility of helping to understand subjective, cultural and social hedonists aspects, the healthy psychic elements, boosting optimism, motivation, positive emotions, sense of humor, creativity, talents and moral strengths. The revitalization of psychic healthy elements can promote major changes in the field of sports action, enabling the promotion and enhancement of self, and invigorating emotional commitment to each other. These components are trainable, through specific interventions. Positive Psychology proposes to structure individual's skills for overcoming stressor problems, the search for sublimated strengths, fostering resilience by using creative and kinesthetic visualization resources and idealization of problem situations, supporting the pro-social behavior. The emphasis on the positive attributes can bring about substantial changes in personal ambit and in the whole technical team, deserving greater emphasis on sport psychology field.

P4.57

The influence of exercise status information on ratings of the warmth and competence of older adults.

Iain Greenlees (University of Chichester, UK)

Ben Hall (University of Chichester, UK)

Recently, researchers (e.g., Martin Ginis & Leary, 2006; Martin, Sinden, & Fleming, 2000) have shown that information about an individual's exercise activities influences the impressions that other people form of them. This study examined whether information about an older person's exercise habits and social activities influences the impressions formed of them by others. British participants (N = 1230) from three age categories (16-25 years old, 26-55 years old & 56+ years old) were asked to read a description of a 65 year old man or woman indicative of seven exercise/social activity statuses (solitary exerciser, social exerciser, extreme exerciser, non-exerciser, active living non-exerciser, solitary non-exerciser, social non-exerciser, control). Participants rated their perceptions of the warmth and competence of the target on a series of nine-point semantic differential scales. A three way (participant age by target sex by exercise status) MANOVA revealed significant main effects for target exercise status and participant age. The non-exerciser was perceived as less warm and less competent than all other targets but only the extreme exerciser was rated as more competent and warmer than the control target. The results suggest that there are self-presentational costs associated with being a non-exerciser at an older age that may influence the way in which observers act towards sedentary older adults but also indicate that there are few self-presentation benefits accrued to older adults who engage in regular exercise.

P4.58

A multilevel examination of potential psychological needs as predictors of student-athletes' psychological well-being over a university semester.

Ian M. Taylor (Loughborough University, UK)

University athletes may be particularly prone to psychological ill-health due to the potential conflicts between academia and sport, enforced independence, and changing interpersonal environments. This study adopted a multi-theoretical approach to explore which of eight potential psychological needs (i.e., autonomy, competence, relatedness, self-esteem, pleasure, security, physical thriving, and self-actualisation) predicted



indicators of university athletes' hedonic and eudaimonic well-being over the course of one semester. Further extending previous research, these relationships were examined at the within-person and between psychological health, person levels. 198 British university athletes from a variety of sports, aged between 19 and 30 years ($M = 19.82$, $SD = 1.48$, 48% male), were asked to complete a multi-section inventory four times over a university semester.

Multilevel regression analysis revealed that fluctuations in competence, self-esteem, pleasure, and physical thriving positively predicted fluctuations in eudaimonic well-being over the course of the semester, whereas fluctuations in autonomy, competence, self-esteem, and physical thriving positively predicted fluctuations in hedonic well-being. At the individual difference level, self-esteem, pleasure, and physical thriving positively predicted eudaimonic well-being, while self-esteem, physical thriving and self-actualisation positively predicted hedonic well-being.

The results suggest that some potential psychological needs may be more important for university athletes' well-being, compared to other candidate needs. In particular, athletes with higher average levels of self-esteem and physical health are more likely to psychologically thrive during university. At the state level, university environments that lead to increases in competence, self-esteem, and physical health, in particular, may be of benefit to athletes'

P4.59

Level Of Quality Of Life Of Brazilian Male Volleyball Team Athletes – 2010.

José Roberto Andrade do Nascimento Junior (Universidade Estadual de Maringa, Brazil)

Paulo Vitor Suto Aizava (Universidade Estadual de Maringa, Brazil)

Lenamar Fiorese Vieira (Universidade Estadual de Maringa, Brazil)

This study has as a goal to analyze the athlete's quality of life of the Brazilian male volleyball team. The subjects were 12 adult athletes of the Brazilian team, who competed in the volleyball world league - 2010. As instruments, it was used the identification form of athletes and the Medical Outcomes Study 36 (item short) Form Survey - SF - 36. The data was collected individually during the first semester of 2010 at the Volleyball Development Center of the Brazilian Volleyball Confederation in Saquarema – RJ. For data analysis, it was used descriptive statistics (frequency, percentage, median and quartiles), test of normality Shapiro-Wilk, Repeated Measures - ANOVA, Spearman's Correlation and the Cronbach's Alpha Coefficient ($p < 0,05$). The results showed: the athlete's quality of life level was very good as physical functioning, social functioning and mental health; the bodily pain scale had a good prevalence of quality of life (66.7%), limiting the physical aspects to 33,3% of the athletes; there was significant difference between the pain scale and functional capacity, general health, vitality and physical aspects ($p < 0,05$); a significant negative correlation was noted between the age and the mental health ($r = -0,66$) and a positive correlation between the pain and the limitations of physical aspects ($r = 0,62$). It was concluded that athletes have demonstrated a good level of quality of life, showing that the bodily pain scale is a factor which influences the athlete's daily routine.

P4.60

Quality of life among athletes.

Mariola Paruzel (University of Silesia, Poland)

An important aspect of research in sport psychology is the quality of life among athletes. Psychology of quality of life is an area of psychology, which examines the quality of human life by focusing on luck or mental well-being (Seligman, 2000). It seems that the psychological literature is congested by simplistic and short definitions of the quality of life (Dziurowicz-Kozłowska, 2002). Most of the theories recognize three aspects of quality of life: physical (eg, health, physical fitness), psychological (eg emotional state, level of self-esteem) and social (eg, relationships with others, the level of support). These theories do not take into account the spiritual aspects, whose role has been emphasized by many researchers (Ryff, 1989; Diener, 2000, Stras-Romanowska, 2005). Inclusion in the research on the quality of life among athletes the metaphysical dimension will allow for a fuller, deeper recognition of their quality of life. One of the interesting models is the personalistic-existential sense of quality of life created by a Polish researcher, Mary Stras-Romanowska (1992). Stras-Romanowska concept is based on assumptions of the philosophical anthropology, mainly personalism, existentialism and philosophy of dialogue (Stras-Romanowska, 2005) and it is part of the person-oriented psychology. This model stresses the multidimensionality of the quality of life, takes into account the biological, social, subjective and spiritual (metaphysical) aspects. The author will present a model of quality of life and the



Quality of Life Questionnaire created by Mary Stras-Romanowska, Anna Oleszkowicz, Thomas Frackowiak (1995), which can be used in the study of athletes.

P4.61

Academic achievement, obesity and physical activity in adolescents.

Helder Rodrigues (University of Madeira, Portugal)
Maria João Almeida (University of Madeira, Portugal)
Ana Rodrigues (University of Madeira, Portugal)
Andreia Luís (University of Madeira, Portugal)
Cândida Sousa (University of Madeira, Portugal)
Joana Martins (University of Madeira, Portugal)
João Filipe (University of Madeira, Portugal)

Aim:

The purpose of this study was to investigate the association between academic achievement, physical activity levels and levels of obesity, in 7th grade students from Funchal.

Methods:

The total sample included 353 boys and girls, attending 7th grade in 2 public schools from Funchal, Madeira Island. All students were measured for triceps and calf skinfolds, and estimates of percent body fat (%BF) were estimated using equations developed by Slaughter et al. (1988). Sport participation was assessed by questionnaire, looking into present and history from the two previous years. Academic achievement was determined by summing the scores of the 2nd trimester of 2009/10, obtained by the students in all compulsory class subjects.

Results:

Regarding sport participation, there were significant differences between genders, with boys reporting higher levels of sport participation ($p < .001$), and higher levels of %BF ($p < .001$) than girls. Regarding academic achievement, there were significant differences in Physical Education scores, with boys showing a higher mean grade ($p = .002$). Levels of sport participation were negatively associated with %BF ($r = -.144$; $p = .006$). Students who reported participating in organized sports for the previous 2 to 3 years, had on average better grades ($p = .015$), than those who had not played any sports during the same period.

Conclusions:

This study showed that students who played organized sports had lower %BF, and higher academic scores. There was a stronger association for those who had been playing more sports and for longer periods, and especially in girls.

Some studies have showed an association between academic achievement, sport participation and obesity. However, there is a need for more research looking into this area.

P4.62

Exploring children's "ways of seeing" the trip to school: A qualitative study.

Guy Faulkner (University of Toronto, Canada)
Caroline Fusco (University of Toronto, Canada)
Fiona Moola (University of Toronto, Canada)
Vanessa Richichi (University of Toronto, Canada)
Ron Buliung (University of Toronto at Mississauga, Canada)

Background:

Reviews identify a range of factors that may act as facilitators and barriers to Active School Transport (AST). There is insufficient qualitative evidence assessing how children experience the trip to school and how this experience may vary by transport mode.

Objectives:

The primary purpose of this study was to examine perceptions of the trip to and from school among children and identify the factors that enhance and/or impede their active transport participation.



Methods:

Using a photovoice methodology, forty children (20 AST and 20 driven) from four elementary schools participated. Each school varied with respect to the walkability of its surrounding built environment and socio-economic status. Data were analyzed using thematic analysis.

Results:

All children recognized walking to school as an important activity to engage in because it could enhance health and wellbeing. All children could talk about the benefits of seeing green spaces on their journey to school but while AST children vividly described the details of their journey to school, non-AST children displayed less specificity about their environments, and sometimes demonstrated some detachment from their environments. Children from low SES schools perceived more barriers to AST with respect to safety, pollution and graffiti in their neighbourhoods.

Conclusions:

If AST is to be increased, it will be necessary to facilitate opportunities for child-centred interventions in school transport policies that will reflect not only the perceived benefits of AST for children but that take account of the multiple social and built environments of children's home and school lives.

P4.63

Motivational climate and enjoyment in school PE classes in Finland.

Jarmo Liukkonen (University of Jyväskylä, Department Sport Sciences, Finland)

School PE plays an important role in the socialisation process into a physically active lifestyle. When children experience positive affect from their involvement, they can be expected to become involved in physical activity. There is insufficient knowledge about the components of psychological climate affecting pupils' enjoyment. According to the self-determination theory, intrinsic motivation towards the activity at hand will be enhanced if individuals perceive competence, autonomy, and social relatedness. According to the achievement goal theory, perceptions of competence may arise from intra-individual comparison, and/or from inter-individual comparison. The participants of the study were 4397 Finnish students at Grade 9. The questionnaire consisted of the Intrinsic Motivation Climate in Physical Education Questionnaire and the Sport Enjoyment Scale. The correlations between physical competence and enjoyment in PE were 0.49 for girls and 0.52 for boys. The respective correlations with enjoyment were for perceived autonomy 0.39 and 0.38, for social relatedness 0.50 in the case of both genders, and for task involving climate 0.64 and 0.66. The results show that pupils' enjoyment in school PE in Finland is related to the level of physical competence. This reflects a serious challenge for PE teachers to develop the class climate so that pupils with low level of motor skills would get positive affective experiences. High levels of perceived autonomy, social relatedness, and task involvement seem to be highly associated with pupils' enjoyment in PE classes.

P4.64

Social comparison in physical education: motives, frames of reference and consequences.

Jemima S. Barnes (Loughborough University, UK)

Christopher M. Spray (Loughborough University, UK)

The purpose of this study was to identify school children's motives for engaging in social comparisons in physical education (PE), their frames of reference and the perceived positive and negative outcomes of engaging in these comparisons. Building on previous literature, in depth accounts of comparisons were gained through the use of qualitative methods. Twenty-two pupils aged 11 to 15 ($M = 13.12$ years, $SD = 1.06$) from two secondary schools in the East Midlands and South West of England each took part in two semi-structured interviews. Content analysis identified self-evaluation, self-improvement and self-enhancement as central motives for engaging in comparisons in PE. Comparisons were class- and sport-specific, with many pupils choosing to compare with friends in the class. Reference to upward and downward comparisons occurred numerous times, with the 'best' at each sport frequently cited as a target for comparison. Although analysis revealed many positive consequences resulting from engaging in social comparisons such as increased effort, there were a number of negative effects identified including withdrawal of effort and decreased concentration, interest and desire to engage in PE. This study provides insight into the scope and impact of social



comparisons in the PE setting and suggests that, to date, prior empirical work has provided limited understanding of this complex topic.

P4.65

Not everyone likes PE... but me, I like it a lot!

Kirsti Lauritsalo (University of Jyväskylä, Finland)

Arja Sääkslahti (University of Jyväskylä, Finland)

Helena Rasku-Puttonen (University of Jyväskylä, Finland)

PE produces multiple strong feelings and motions. It is important also in the research context to listen to the pupil's voice. Nowadays pupils can be listened to in a new way – through the Internet. The purpose of this study was to examine what kinds of intrinsic factors behind the opinions are expressed in Internet discussion forums on experiences of PE in Finnish schools.

The data for this research were collected from open Internet discussion forums during a randomly chosen week (15) in 2007. Using qualitative content analysis (Patton, 2002) all the messages (total n=356) from nine forums were grouped into positive, both positive and negative, and negative messages. The messages were divided into smaller segments and labelled opinions (total n=652). Based on Carlson's model (1995), these opinions were further grouped into intrinsic and extrinsic factors. This paper focuses on the intrinsic factors.

The results showed that of the total of intrinsic factors 15% were in the category of positive opinions and up to 46% in the category of negative opinions. The findings revealed that the self-esteem plays a crucial part in PE: it was somehow mentioned in about half of the opinions. Almost every fourth opinion concerned the physical ability. The beliefs about PE and other factors gathered less opinion.

Based on the results of the study we conclude that more focus is needed on the pedagogical and emotional aspects of PE. We also address some methodological issues regarding the Internet as a research context.

P4.66

The Effect Of Teacher And Peers Need Support In Physical Education On Students' Leisure Time Physical Activity Behaviour.

Roomet Viira (University of Tartu, Estonia)

Andre Koka (University of Tartu, Estonia)

The aim of this study was to investigate the effects of need support from both teacher and peers in physical education (PE) lessons on students' leisure time physical activity. In line with Self-determination Theory, it was hypothesized that basic psychological needs for competence, autonomy, and relatedness mediate the relationships between need support from teacher and peers and students' autonomous motivation, controlled motivation, and amotivation in physical education. Different types of motivation, in turn, would affect students' leisure time physical activity behaviour.

Estonian secondary school students (N = 548; M age = 13.57 years; SD = .61) completed questionnaires assessing the key variables of interest.

Structural equation modeling revealed support for a mediational effect. Specifically, results indicated perceptions of need support from both PE teacher and peers to positively predict all three needs while perceptions of need support from the teacher exhibited strongest effect on students' autonomy and competence satisfaction, whereas need support from the peers influenced most strongly the need for relatedness. All three needs predicted positively both autonomous and controlled motivation, whereas needs for autonomy and competence negatively predicted amotivation. Only autonomous motivation, however, had significant and positive effect on students' leisure time physical activity behaviour. Overall, results indicated that the total effects of need support from teacher ($\hat{\alpha} = .13, t = 4.62, p < .01$) and peers ($\hat{\alpha} = .04, t = 2.73, p < .01$) on leisure time physical activity behaviour were indirect through psychological needs satisfaction and autonomous motivation.

Results seem to suggest that need support from both teacher and peers in PE is effective in promoting students' leisure time physical activity behaviour.



P4.67

Changes in junior high school students' physical activity and fundamental movement skills during one-year intervention.

Sami Kalaja (University of Jyväskylä, Finland)

Timo Jaakkola (University of Jyväskylä, Finland)

Jarmo Liukkonen (University of Jyväskylä, Finland)

The purpose of this study was to investigate changes in the students' self-reported physical activity and their fundamental movement skills during one academic year intervention. The participants were 446 Grade 7 Finnish students from three junior high schools. The intervention followed a quasi-experimental design and included 32 PE classes (90 minutes) aiming at developing students' fundamental movement skills. The Finnish version of the physical activity scale was used to analyze the level of students' engagement in the physical activity. Additionally, seven tests were conducted in order to analyze students' fundamental movement skills. All measures were conducted four times; before the intervention, in the middle of the intervention, after the intervention, and retention test six months after the intervention. Repeated measures MANOVAs were carried out to analyze interactions between condition (experimental/control) and time (four measurement points). If interaction existed, follow-up post hoc MANOVA was implemented to investigate between which measurements the differences existed. Analyses revealed significant condition x time interaction in static balance (Huynh-Feldt's $F[2.852]=6.45$, $p=.000$), dynamic balance ($F[2.71]=11.03$, $p=.000$), and engagement in physical activity ($F[2.78]=2.77$, $p=0.044$). The experimental group demonstrated more positive development of these variables compared with the control group. This study revealed that it is possible to affect students' engagement of physical activity and fundamental movement skills during junior high school. In this intervention study these effects were obtained only by little investments in physical education curriculum.



P5.01

Performance Improvement through Biofeedback: an experimental study.

Carlos Silva (ESDRM-IPS, Portugal)
Dina Moura (ESDRM, Portugal)
Luis Cid (ESDRM, Portugal)
Antonio Rosado (FMH, Portugal)
Carla Borrego (ESDRM, Portugal)

Physical training combined with mental training has assumed an important role in improving performance. In this experimental nature study, we have analysed if the practice of concentration through a biofeedback technique (PAT), combined with physical training, improves the performance measures on a psychomotor task more than the simple practice.

The study included 44 participants (convenience sample), 25 male and 19 female. To test the effectiveness of the program, the sample was randomly divided into three groups: control group (CG n = 15) (without training), experimental group 1 (EG1 n = 14) (practice task) and experimental group 2 (EG2 n = 15) (mental training more practical task). The training of the experimental groups had 10 sessions spread out over four weeks (10 for practice sessions and five practice sessions GE1 +5 Biofeedback sessions for EG2)

Comparing each group, from the first to the second assessment, only the experimental groups significantly improved their performance. The experimental group 2 was the most effective. When comparing the groups, EG2 has two significant differences (improvements) in measures of performance in relation to the control group. The EG1 is no different from any of the above. In relation to the number of errors only GE1 showed a significant reduction.

P5.02

The Effects of External and Internal Attention on Golf Putting Performance.

Che-Wei Chang (National Taiwan Normal University, Taiwan)
Tsai-Chun Hsieh (National Taiwan Normal University, Taiwan)
Chung-Ju Huang (Taipei Physical Education College, Taiwan)
Tsung-Min Hung (National Taiwan Normal University, Taiwan)

The purpose of this study was to investigate whether there were any significant differences on golf putting performance between internal and external focus of attention. EEG coherence refers to the measurement of the degree of linear relatedness between time series simultaneously recorded from two locations. Decreased coherence during the preparatory period of a putting task would indicate region-specific activation. For this study, eighteen experienced golfers were randomly assigned into two groups (external attention group, EA: n=9; internal attention group, IA: n=9). EEG power and coherence were assessed for three frequency bands (low alpha1, IAF-4~IAF-2 Hz; low alpha2, IAF-2~IAF Hz; and high alpha, IAF~IAF+2 Hz) using sites T3, T4, and Fz. 2 x 3 (condition x window) ANOVA with repeated measures on both factors were employed on low alpha1, low alpha2 and high alpha bands, and separately computer for power and coherence. The results showed that the EA group showed enhanced performance when comparing the control and experimental conditions, while there was no difference between the conditions for the IA group. High alpha power in the EA group decreased at T4 for both conditions. However, Fz-T4 coherence of high alpha in the EA group decreased during putting approach for the control condition and manipulation of external attention in this study improved putting performance. The analysis of EEG power and coherence provides possible mechanisms that may explain the beneficial effect of external attention on golf putting.

P5.03

A Self-Determination Theory Approach to understanding the Antecedents of Students' Satisfaction and Intention of Course Taking in Physical Education.

Chi Yen Lin (National Taiwan Ocean University, Taiwan)

This study, based on Self-determination Theory, was designed to investigate university students' perceived teacher autonomy support through examining the influence of psychological variables on motivation and behaviors. Sample were 1544 university students (male 660, Female 884) with an average age of 20.3 years (SD= 2.0 years). Perceived autonomy support, perceived autonomy, competence, relatedness, and learning



motivation for physical education classes were used for time one (mid-term). Satisfaction and Intention for future course selection was used for time 2 (end of semester). SEM analysis showed that Self-determination Theory suggesting the causal model motivation had good fit index for Taiwanese university students' physical education class. The present results provided strong support for the causal model based on the framework of self-determination theory. The more autonomy support that students' perception are, the more positive are students' perceptions of perceptions of autonomy, competence, and relatedness. Furthermore, the more positive students' perceptions of autonomy, competence, and relatedness were, the higher levels of self-determined motivation were. Especially of perceived relatedness was the major psychological mediator. Based on findings from this study, practical applications and future research suggestions were also provided.

P5.04

Case study of Japanese elite athlete: The changing process of inner maturity and self-awareness with the application of expression therapy.

Daisuke Takeda (Japan Institute of Sports Sciences, Japan)
Katsuhiko Kotani (Hokkaido University of Education, Japan)
Shiro Nakagomi (University of Tsukuba, Japan)
Masashi Suzuki (Gifu University, Japan)

The elite athletes generally possess the high level of physical ability and skills that are necessary for performance. During the psychological sessions, however, the sport counselor (i.e., the Japanese qualification for the field of clinical sport psychology) often becomes aware that some athletes have not yet reached full maturity. Those athletes tend to be reluctant or not good at verbally expressing their feelings and thoughts. Thus, in those cases, it seems better to understand the changing process of their psychological states by using the inner image rather than asking for verbal expression to directly describe their psychological issues. The purpose of this case study was to assess the changing process of one's inner maturity and self-awareness throughout the series of sessions. The Japanese female elite athlete A in her late teenage year first mentioned that she considered the retirement due to the lack of motivation resulted from receiving coach's scold. At that time, she did not talk spontaneously and seemed to be not good at verbal expression. She, however, clearly pointed out to the counselor, "I want to know myself." The sport counselor, thus, used the therapeutic techniques of expression (i.e., kind of drawing) originated in Japan, called "The Landscape Montage Technique (LMT)" and "Mutual Scribble Story Making (MSSM)." After several sessions, she mentioned that she wanted to perform independently and returned to the field. Given the inner messages derived from her drawing, the changing process of her inner maturity and self-awareness was discussed.

P5.05

Expert footballers' detection of deception: response data from an fMRI study.

Daniel T. Bishop (Brunel University, UK)
Michael J Wright (Brunel University, UK)
Robin C Jackson (Brunel University, UK)
Bruce Abernethy (The University of Hong Kong, HK)

Experts are better attuned to detection of sport-specific visual information than are novices, especially when only limited visual information is available. Moreover, the expert advantage appears to be conferred by kinematic, i.e. motion-related, information; this is reflected in mirror neuron system (MNS) activation (Wright, Bishop, Jackson, & Abernethy, 2010).

Seventeen semi-professional footballers (M age = 22.1 yrs; SD = 2.7 yrs), twelve university footballers (M age = 23.5 yrs; SD = 5.0 yrs) and twelve novices (M age = 22.5 yrs; SD = 3.8 yrs) lay in an MRI scanner while viewing oncoming footballers dribbling towards them; all participants were male. Video clips were run in each of four occlusion blocks (t0, t0 -4 frames, t0 - 2 frames, t0 + 2 frames) and in each of two video formats (full video, FV; point light, PL). Each block comprised 36 randomised clips from each of three conditions: deception (actor performs a step-over manoeuvre), no deception, and control footage. Participants used a button box to predict the direction in which they believed the actor would move (left/right).

Results showed main effects of occlusion, condition, video type, $p < .001$, and group, $p < .05$. Specifically, prediction accuracy increased with later occlusion, absence of deception, FV and expertise. There was a significant interaction of, inter alia, group and condition; expert advantage was greatest under deceptive



conditions. Early fMRI data show stronger MNS activation in experts than in novices when observing deceptive footage. Superior attunement to deception may be a feature of expertise in football.

P5.07

The psychological preparations for the Beijing 2008 olympic games in the opinions of polish team members.

Marcin Krawczynski (Academy of Physical Education and Sports, Poland)

Tomasz Polgrabski (Ministry of Sports and Tourism, Poland)

The psychological preparation for the most prestigious events, e.g. Olympic Games or World Championships, is still considered to be a key issue in the psychology of sports. The main aim of this work is an attempt at the psychological preparation evaluation in Polish sport with in the light of the Olympic Games participants' opinions from Beijing 2008. The research applies the diagnostic questionnaire method with the use of a self-constructed survey questionnaire. The open and closed question questionnaire included 21 tasks which, among others, inquired about: the key positive and negative factors which determine the scores achieved, the realisation of the preparation programme, the forms and character of co-operation with psychologists, this co-operation's evaluation etc. 43 sportsmen from 9 disciplines participated in the research (these include 4 women and 29 men; 17 Olympic medallists, 36 World Champions, 21 Europe Champions). The majority of the participants did not co-operate with a psychologist during preparations or co-operated sporadically. During the preparations, the participants used mostly: visual aids, as well as relaxation and concentration training. According to the researched, the most important factors which have a positive effect upon the programme's realisation include: a good contact with one's trainer, the atmosphere in a group, technical, tactical, motorial and psychological preparation; the disturbing factors comprise: minor injuries, the lack of complete psychological care during the Olympics. The results provided are to contribute to the preparation of an effective psychological preparation system in the future.

P5.08

Motivational profiles in physical education spanish students: an approach from the 2x2 achievement goals theory.

Ricardo Cuevas Campos (Universidad Castilla-La Mancha, Spain)

Juan Gregorio Fernandez Bustos (Universidad Castilla-La Mancha, Spain)

Irene Gonzalez Marti (Universidad Castilla-La Mancha, Spain)

Tomas Garcia Calvo (Universidad Extremadura, Spain)

The propose of the present study was examine the relationships between 2x2 achievement goals and perceived motivational climate in Physical Education. Using the Achievement Goals Theory as guiding framework, questionnaires were completed by Spanish secondary school students (N=169; M age= 15,51 years, SD: 0,73; males= 84, females = 85). The participants completed the Spanish versions of the 2x2 Achievement Goals in Physical Education Questionnaire (Wang et al., 2007; adapted by Moreno Murcia, González-Cutre and Sicilia, 2008) and the Learning and Perfomance Orientations in Physical Education Classes Questionnaire (Papaioannou, 1995; adapted by Cervelló and Jiménez, 2002). The correlation analysis revealed significantly relationships between the four factors of 2x2 achievement goals, except between performance-approach and performance-avoidance. Also, both dimensions of motivational climate were linked with all 2x2 goals, especially between mastery-approach and task-involved motivational climate. Cluster analysis showed three distinct clusters with important differences in their achievement goals profiles. The first profile was characterized by high achievement goals, the second profile was composed by low achievement goals and the last one was distinguished by having high levels of mastery achievement goals. Then a MANOVA analysis revealed the students of the first and the third profiles has high levels of task-involved motivational climate. The findings suggest the importance to implement suitable motivational climates in the physical education classes for enhance adaptive motivational profiles in the students.



P5.09

"The change of personal meaning and value shown by the score of psychological tests at continuative psychological support".

Takako Hiraki (Japan Institute of Sports Sciences, Japan)

When a psychologist offers support to an athlete, psychological tests that measure psychological skills serve as highly useful tools for case-formulation and evaluation of psychological support. However, some practical cases report a drop in some of the scores of athletes' psychological skills post intervention. Moreover, Uchida (2007) reports that the scores on the psychological scale showed no change even though the athlete reported an affirmative introspection. These results show that psychological support influenced not only the improvement of a psychological skill but also psychological aspects such as value sense and self-concept. As a result, these reports suggest the possibility of a change in the personal meaning and value of the constructive concept reflected in the scores of the psychological test.

The present study examines the background in which the personal meaning and value of the scores obtained on a psychological test change as a result of psychological intervention. Before and after intervention, the Diagnostic Inventory of Psychological Competitive Ability for Athletes (DIPCA.3) was administered to female athlete A, who had received psychological support for about one year. At end of this support, a decrease in DIPCA.3 scores was observed in some psychological skills despite A reporting a positive psychological change. In particular, the evaluation of the value sense for victory desire (one of DIPCA.3's constructive concepts) has decreased. On the basis of these results, the change in the personal meaning and value of the score of the psychological test during intervention were discussed by case record (verbatim record of A).

P5.10

Self-efficacy in Action.

Adriana Zagorska (The Jozef Pilsudski University of Physical Education, Poland)

Introduction:

Athletes should have strong sense of self-efficacy in order to strenuously strive after better results in sport, especially in face of adversity. According to Albert Bandura self-efficacy is a belief that one has the capabilities to execute the courses of actions required to manage prospective situations. People with high self-efficacy are more likely to view difficult tasks as something to be mastered rather than something to be avoided.

Athletes, coaches as well as psychologists all know the power of theory of self-efficacy in sport but what about putting research into practice?

Therefore the aim of presented study was to develop, test and establish frameworks for mental program increasing sense of self-efficacy among athletes based on Bandura's self-efficacy theory.

Material and methods:

The sample consisted of 42 track and field athletes (13 men and 29 women) aged 17-25, competing on national and international level. This group of athletes was divided into two groups – experimental and control. Experimental group was submitted into the intervention. General Self-Efficacy Scale, The Locus of Control, Life Orientation Test-Revised LOT-R, The Hope Scale and Coping Inventory for Stressful Situations Scale(CISS) were used.

Results:

Sense of self-efficacy increased significantly after investigation in the experimental group. Psychological variables didn't change extensively after the program except for locus of control and task - focused from coping inventory which improved among athletes from experimental group. Emotion - oriented trait decreased in experimental group.



P5.11

Self efficacy, collective efficacy among volleyball athletes.

Flavio Rebastini (LEPESPE, Brazil)

Altair Moioli (LEPESPE, Brazil)

Marcelo Callegari Zanetti (LEPESPE, Brazil)

Afonso Antonio Machado (LEPESPE, Brazil)

Flavio Dezan (LEPESPE, Brazil)

Mauro Schiavon (LEPESPE, Brazil)

The aim of this study was to evaluate the self efficacy and efficacy collective among volleyball players in three positions (setters, middle-blockers and wing-spikers). Sample was composed by twelve female athletes (14 and 15 years old) from a volleyball team in Sao Paulo – Brazil. Data was gathered during 30 sessions of training and games. We used the following questions to evaluate the self and collective efficacy: “how did you evaluate your performance in training session/game?” and “how did you evaluate your team performance?” These questions ranged in a scale from 1 to 5 (5: very well). For the statistics, it was used the variance analyses of Anova One Way and Scheffé post hoc test with significance of $p < 0,05$. The results showed significant difference ($p < 0,05$) between middle-blockers self-efficacy and the others positions, but did not find significant difference to collective efficacy. That is, all players evaluated had the same performance regarding collective efficacy. On the other hand, the middle-blockers presented lower self-efficacy than setters and wing-spikers. We must remember that middle blockers have one lower effective participation in the game and it may be the factor/ reason for this behavior. These results showed that coaches, staff and sport’s psychologist must follow closely the internal dynamics of the game and how they interfere in the players performance, including the game positions.

P5.12

Self efficacy and performance in Italian professional volley-ball players.

Luca Mallia (University of Rome "Foro Italico", Italy)

Valter Borellini (Italian Volleyball Federation, Italy)

Fabio Lucidi (University of Rome, Italy)

Arnaldo Zelli (University of Rome "Foro Italico", Italy)

Marco Guicciardi (University of Cagliari, Italy).

Sixty-three male volleyball players (mean age = 27.20 y.o. $sd=4.99$) competing for the national tournament and 65 female volleyball players (mean age = 23.6 y.o.; $sd=5.4$) competing for the regional tournament participated to the study. All athletes filled out a 24-item sport-specific personal Self-Efficacy scale (e.g., technical skills, relationship with team and coach), a 19-item sport-specific Collective Self-Efficacy Scale, and the 18-item Group Environment Questionnaire measuring team cohesion.

National athletes’ volleyball performance was assessed by utilizing several performance scores (e.g., number of receptions and number of attacks) recorded during two tournament games over the course of three months and aggregated to obtain measures of performance efficiency. The regional athletes’ volleyball performance was instead assessed by asking team coaches to evaluate their players on a 10-item performance scale around the time of the athletes’ questionnaire assessment.

A series of regression analyses permitted to evaluate the relative effects that Personal and Collective Self Efficacy, as well as team cohesion had on athletes’ performance improvement over time among national athletes, and on coaches’ performance evaluations among regional volleyball athletes.

Among national volleyball players, both forms of efficacy beliefs and task cohesion contributed to athletes’ improvement in reception efficiency, whereas only task cohesion contributed positively to athletes’ attack efficiency. Among regional volleyball players, both forms of efficacy beliefs and task cohesion positively predicted coaches’ evaluations of athletes’ performance.



P5.13

Self efficacy and performance in Italian basketball players: a longitudinal study.

Luca Mallia (University of Rome "Foro Italico", Italy)

Arnaldo Zelli (University of Rome "Foro Italico", Italy)

Fabrizio Rotondo (University of Rome "Foro Italico", Italy)

Fabio Lucidi (University of Rome "La Sapienza", Italy).

Sixty-three male volleyball players (mean age = 27.20 y.o. sd=4.99) competing for the national tournament and 65 female volleyball players (mean age =23.6 y.o.; sd=5.4) competing for the regional tournament participated to the study. All athletes filled out a 24-item sport-specific personal Self-Efficacy scale (e.g., technical skills, relationship with team and coach), a 19-item sport-specific Collective Self-Efficacy Scale, and the 18-item Group Environment Questionnaire measuring team cohesion.

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P5.14

Influence of collective efficacy beliefs on social loafing in sport groups with different levels of task familiarity.

Robertino Engel (Institute of Sport Science, University of Berne, Switzerland)

Roland Seiler (Institute of Sport Science, University of Berne, Switzerland)

Daniel Birrer (Swiss Federal Institute of Sport Magglingen, Federal Office of Sport, Switzerland))

The aim of this study was to determine the influence of collective efficacy beliefs on social loafing in groups with different levels of task familiarity. 48 sport science students and 48 basketball players participated in groups of three. They completed a basketball drill, first individually then as a group in a relay condition. The groups received a manipulation feedback after the single run that was either positive or negative in regard to their potential to perform well as a group. Collective efficacy, self efficacy and motivation were measured before both runs. A positive manipulation feedback led to increased levels of reported collective efficacy, self efficacy and motivation whereas a negative manipulation feedback led to decreased levels of these measures. A 2 x 2 repeated measures ANOVA revealed an increase in performance for all four conditions. The increase was higher in groups receiving a positive feedback than in groups receiving a negative one. The basketball players did not show a different pattern than the sport science students concerning performance changes. This indicates that task familiarity does not seem to have an impact on the feedback's influence on performance. Even though no social loafing was found in the form of performance decrease, it is still possible that such an effect took place since there was a difference in performance increase between the positive and the negative feedback condition. The social loafing effect might have been masked by a practice effect.



P5.15

Collective Efficacy and sports results with basketball players.

Tatiana Iancheva (National Sports Academy, Sofia, Bulgaria)

Vencislav Jordanov (National Sports Academy, Sofia, Bulgaria)

Vladimir Isk (National Sports Academy, Sofia, Bulgaria)

In recent years research on the co-operations between the collective efficacy and the teams achievements are beginning to become ever more popular (A. Bandura, 1986, 1987; Hodges & Carron, 1992; Lichacz & Partington, 1996).

Collective efficacy is defined as an element in the behavior of a group, which has the same convictions and is derived from the totality of the individual members and their perceptions as well as from the capabilities of these members to succeed.

We assume that teams that have high levels of collective efficacy should be able to surpass teams with lower levels in the field of their actual sport results.

The goal of the ongoing research is to study the collective efficacy of basketball players from teams with different levels of qualification.

The subjects of the research are 120 Bulgarian basketball players of the age between 14 and 36, collected from 14 teams – 8 male and 6 female.

To acquire the most accurate results from the present study we used a Questionnaire used for studying collective efficiency in sport – The Collective Efficacy Questionnaire (CEQ), developed by Fletz and Ligg, 1998. The Questionnaire includes 5 subscales – capabilities, unity, persistency, preparation and effort.

The gained data is analyzed according to age, gender and sports result (that of the end-of-season position). The newly found regularities can be of great value for orientation in the work of future coaches and give opportunity for optimizing the sport-competitive activity as a whole.

P5.16

Interpersonal relationships in multicultural basketball teams: comparison among European countries.

Anastasiya Khomutova (Palacky University, Czech Republic)

Recently the psychology of sport has been interested in the motivation behind sport migration and the adaptability of athletes who are considered as “elite migrants” of the job market, especially due to mediatization of professional sport. Very high expectations are put on sport migrants: personal flexibility; ability to quickly orientate in a new culture; willingness to learn new types of behavior; resilience against negative aspects of migration (discrimination, racism, xenophobia etc). Sport migrants, as ordinary migrants, undergo cultural shock and can find themselves in difficult situations, which lead to more serious consequences due to social pressure and mass media attention. Another obstacle is adaptation within a multicultural team, inside which there are different interpretations and understandings of sport. Barriers in cross-cultural communication are not only caused by language diversity, but can also arise from non-verbal communication, which differs depending on nationality. This study is focused on a comparison of the group atmosphere and interpersonal relationships in multicultural basketball teams: results from teams in the Czech Republic and Latvia are already received; results from England, Germany, Italy and Spain are expected. The aim of the project is to contribute to a better understanding of the functioning of multicultural teams.

P5.17

The development of an insecure attachment style and its effect on the relationship quality and sport satisfaction at the elite level.

Anne Fylling Frøyen (Norwegian School of Sport Science, Norway)

Within the framework of attachment theory (Ainsworth, Blehar, Waters & Wall, 1978) there are three primary attachment styles; the secure, the anxious-ambivalent and the avoidant. Although both Bolwby (1969/1982, 1988) and Ainsworth (1978) primarily focused their research on the assumption that the general working model in regard to attachment style was developed during infancy and early childhood through interaction with their primary caregivers, there is now an increased interest for within-person variations in attachment (Lewis, 1994), such that a person's attachment to a particular other could be a function not only of his/her general



working model but also of his/her experience of that individual at that particular time (e.g. Kobak, 1994). Because the role of attachment in the development and maintenance of effective coach-athlete relationships is scarce (Jowett & Poczwardowski, 2007; Davis & Jowett, 2010), the focus of this study was to investigate how an elite athlete with a general secure working model experienced the development of an insecure attachment style towards her coach and some of her team members. Through an in-depth interview it was revealed that interactions recognized by a perceived lack of interest in her both as an athlete and as a person and insensitive behavior over time made her distrust them to such a degree that she eventually withdrew from the team both behaviorally and emotionally. She consequently experienced lack of motivation and satisfaction with her sport participation, and described this experience as her main reason for why she terminated her athletic career.

P5.18

The relationship between organizational stress and mental toughness in international sport performers.

David Fletcher (Loughborough University, UK)

Mustafa Sarkar (Loughborough University, UK)

Timothy F. Price (Loughborough University, UK)

Joanne Maher (Loughborough College, UK)

The purpose of this study is to investigate the potential links between athletes' experiences of organisational stressors and the utilization of specific mental toughness attributes to withstand these demands. Semi-structured interviews were conducted with ten (6 male and 4 female) international standard athletes from a wide range of sports aged 20-29 years ($M = 22.50$, $SD = 3.13$). Interview transcripts were initially analyzed via (inductive) descriptive, topical and analytical coding. The emergent themes were subsequently (deductively) categorized based on previous frameworks of organizational stress and mental toughness. Findings revealed relatively strong relationships between three of the five organizational stressor dimensions and certain mental toughness attributes. Specifically, factors intrinsic to the sport seemed to be associated with commitment to tasks and being in control. Athletic career and performance development issues appeared to show relationships with the following attributes: bouncing back from setbacks, unshakeable self-belief, and the achievement of sport goal as number one in life. Organization structure and climate of the sport was most frequently linked to emotional intelligence. Despite these general trends in the data, there were attributes that were not specific to certain stressors, but rather appeared more generic, offering a degree of protection to most types of stressors. The results provide an indication of relationships between organizational stressor dimensions and specific mental toughness attributes. In view of these findings, sport psychologists working with international athletes should aim to implement stress management interventions that actively enhance the desired mental toughness attributes.

P5.19

Intervention by social representations theory in sports psychology.

Liliane Peixoto Amparo (Federal University of Rio de Janeiro, Brazil)

The social representations theory proposed by Moscovici (1961), allow us to interpret the experiences of individuals and social contexts, making this theoretical approach is important in investigating community problems, since it allows to understand cognitions and explanatory systems that mediate the interactions of certain groups. Through social interactions, exchanges of information, beliefs, images and attitudes, knowledge is draw to the object, according to the demands of its subjects. Since then the whole process of cognitive development and symbolic stands out and guides the behavior: the social representations theory relates the symbolic processes through the actions of individuals and/or groups so that they have a better understanding of the world. The sport's psychologist follows a pattern, working on pre-defined approaches. The aim of this paper is to proposal that practice of sport psychology, especially in performance sports, is mediate by an assessment of what the sport means to the athlete, making the psychological intervention more effective and individualized according to demand of the athlete and his group. Understanding the factors related to performance helps the athletes to take greater care with your career and develop more skills, enabling better overall progress and welfare of these people. The result of this new proposal is to optimize the performance of the work of athlete and sport psychology.



P5.20

Corporeity Education and Sport Psychology: Case Study about Sportive Group.

Luciana Ferreira Angelo (Faculdade de Educação da Universidade de São Paulo, Brazil)

In this paper I examine a theoretical comprehension and articulation of the aspects related to the athletes' body image and technical commission of a sport team, and their contribution to constitute group unconsciousness that influences the reciprocal education of the corporeity in collective sport event. A professional basketball team and its technical commission are the focus of the current study, as I have professional experience as a player and practitioner in this sport. Specifically, there were seventeen male Nparticipants: thirteen athletes, one coach, one physical trainer and two technical auxiliaries. All the participants had different formation. During the year of 2000, three competitions and three training sessions were video recorded. Of the six video recordings, one game and one training session were analyzed for themes representing physical symbolic group schemes. The video analysis was guided by several theoretical references (e.g., Kaës, 1997; Keleman, 2001; Rivière & Quiroga, 1995; Weinberg & Gould, 2003) thereby facilitating an interdisciplinary understanding of the corporeity phenomenon. Collectively, the analyses indicated that physical expressions and individual consciousness of those expressions interfere with the group dynamic and its effects, contributing to the physical group scheme that, in turn, offer subsidies for the reclaim of the individual bodies during the reciprocal education of the corporeity.

P5.21

Adolescence and relationships: the role of sport.

Silvia Scotto di Luzio (Università degli Studi di Napoli Federico II, Italy)

Fortuna Procentese (Università degli Studi di Napoli Federico II, Italy)

This work starts in the context of studies about peer relationships and motivational indices in sport and exercise settings. Considering the combined influences of peer and parent relationships are important to fully understand the impact of relationships on motivation in youth sport (Jowett & Wylleman, 2005). In adolescence the redefinition of relationships becomes crucial and the peer group takes on special significance becoming a social laboratory in which to experiment on their own choices and behaviors (Bonino & Cattellino, 2000). The aim of this work was to investigate how sport facilitates adolescents to deal with tasks of own development and promote their well-being, particularly referring to the role of sport for building relationships in adolescence. To reach this purpose, semi-structured interviews were conducted with 45 adolescent athletes who came from Naples and its province, recruited through a theoretical sampling (Cicognani, 2003). Through the analysis of the interviews, carried out thanks to Grounded Theory (Strauss & Corbin, 1998), the categories of meaning have been identified. Reading about this phenomenon emerges that relationships with non-athlete peers are characterized by unease and a feeling of exclusion, and adults reference hinder sport participation and affect athletes' motivation. It suggests that sport promotes only relationships between athletes, and increases the ingroup bias that extends to a perception of the future in which relationships with the outgroup are absent (Tajfel, 1978). Finally studying this phenomenon has given some indications about aspects to be examined further in order to promote future effective interventions to prevent sport drop-out.

P5.22

Sources Of Stress Among South African Soccer Officials.

Ankebé Kruger (North West University, RSA)

Sport officiating can be a very stressful occupation, filled with stress and anxiety, and consequently officials might suffer from various stress related illnesses. Very little attention has been given to officials, judges, referees or umpires. The purpose of this study is therefore to determine the acute sources of stress experienced by South African soccer officials. Forty two SAFA (South African Football Association) accredited officials participated in the study. The group consisted of 40 male and 2 female officials. The average age of the officials were 37.52 years old, ranging from 2 to 27 years as SAFA accredited officials. The Ontario Soccer Officials' Survey (OSOS) was used to determine the sources of stress perceived by the officials. The results indicated that fitness concerns were rated as the highest contributor to the stress experienced by officials, followed by role-culture conflicts, fear of failure, peer conflicts, players and or coaches who protest decisions when they do not understand the laws of the game, interpersonal conflict, time pressures and lastly,



fear of physical harm. The results revealed that South African soccer officials experience more or less the same sources of stress than officials in other sports, although the order differs. By making coaches and players aware of the results they might understand the various stressors officials perform under. This could potentially lead to less ignorance by individuals who are involved in sport and are not aware of what the role of a referee involves.

P5.23

Researching Professional Soccer Officials in Brazil: Challenges and Breaking Paradigms.

Gustavo Korte (Federacao Paulista de Futebol, Brazil)

There are not many studies with professional soccer officials in Brazil and despite being the country of football, sport psychologists are not frequently found working with referees. The role of officials are very significant on the development of the game, although being the most criticized participants. The Sao Paulo State Soccer Federation (FPF) was the first one in Brazil to break this paradigm, hiring sport psychologists to do an applied work and research on their officials.

Two hundred and four referees with different ranking participated in this research and in the training, that consisted of physical exercises, psychological training and group dynamics and technical training on the field with players instructed to play and create specific and difficult situations for the referees. The objective of this research was to measure the acceptance of the applied work on the field with Brazilian Soccer Officials. The study was realized considering in two parts: pre-training consisted of an evaluation of the psychological work realized on the past 6 months and the definition of specific goals for the day of the training and the post-training: self evaluation if the goals were reached, the evaluation of some of the psychological skills trained on that day and how the psychological training helped on the training that day and what was the most important learning on the day.

The objective of this presentation is to show how applied research on the field could be a good learning opportunity for the referees and having an acceptance of the psychological training of about seventy eight per cent.

P5.24

Coping Strategies of Ice Hockey Officials.

Kim D. Dorsch (University of Regina, Canada)

Erwin Karreman (University of Regina, Canada)

Harold Riemer (University of Regina, Canada)

David Paskevich (University of Calgary, Canada)

Robert Schinke (Laurentian University, Canada)

Most research examining the coping strategies of sport participants has looked at ways in which athletes and coaches deal with various stressors. For the overall success of the sporting contest, it is just as important to understand ways in which officials cope with the stressors they may face. It is the purpose of this study to examine the coping strategies of ice hockey officials in a Canadian context. The Modified COPE scale for ice hockey officials (Karreman, Dorsch, Riemer, Paskevich, & Schinke, 2010) was collected from 266 ice hockey officials from two Canadian provinces. This scale contains 9 subscales asking officials how often they use the particular coping strategy on a scale from 1 Never to 5 Always. The means of the various subscales revealed that the most important coping strategy for ice hockey officials is increasing effort ($M = 4.30$, $SD = .63$), followed by active coping ($M = 3.88$, $SD = .65$), seeking social support for instrumental reasons ($M = 3.41$, $SD = .76$), and planning ($M = 3.30$, $SD = .82$). On the other hand, behavioral disengagement ($M = 1.39$, $SD = .51$), humor ($M = 2.05$, $SD = .85$), and wishful thinking ($M = 2.27$, $SD = .74$) were coping strategies that were used the least often. Given these results, it seems that officials tend to use some of the problem-focused coping strategies more often than the emotion-focused strategies. Discussion will revolve around the influence of experience, age, level of officiating, and implications for training.



P5.25

Factors underpinning elite sport officiating: Perceptions of English Premier League football referees.

Liam A. Slack (Sheffield Hallam University, UK)
Ian W. Maynard (Sheffield Hallam University, UK)
Joanne Butt (Sheffield Hallam University, UK)
Peter Olusoga (Sheffield Hallam University, UK)

It is widely recognised that to achieve performance excellence a multitude of factors are required for sport performers to reach the pinnacle of their sport (Gould & Maynard, 2009). To date, the majority of performance excellence research has focused on athletes, however, sporting officials are increasingly being thought of as performers too (Philippe et al., 2009). Despite the performance demands placed upon officials little is known of what constitutes excellence in sport officiating (Mascarenhas et al., 2005). The purpose of the study was to identify factors underpinning elite sport officiating. Specifically, from a professional panel of referees assigned to officiate English Premier League football matches (i.e., Select Group referees), 13 referees agreed to participate. The referees (11 active, 2 recently retired) were individually interviewed. Interviews were transcribed and content analysed by three researchers. Findings identified a series of factors underpinning officiating excellence. Emerging themes included: effective game management (e.g., credible positioning); multifaceted pre-match preparation (e.g., tactical preparation); support networks (e.g., social support); performance-level enhancement (e.g., performance-aided technology); physical components (e.g., demanding physical training programme); opportunities to thrive (e.g., extensive Football League level grounding); and; personable characteristics (e.g., humble). A key theme to emerge was mental toughness (e.g., resilience) indicating that referees perceived being mentally tough as a major factor required to perform their role in what they described as a “challenging working environment.” Findings offer practical implications for the development of referees striving to be a professional football official as well as for sport psychology practitioners operating in this field.

P5.26

Use of technology in refereeing today and tomorrow.

Mattia Piffaretti (AC&T Sport Consulting, Switzerland)

This study examines both the practical and psychological advantages and disadvantages of using technology in refereeing based on the example of Swiss ice hockey. A secondary aim is to gain a better understanding of how the use of technology in Swiss ice hockey is perceived by its various stakeholders, both on and off the ice. To investigate this topic surveys with the three major stakeholders have been conducted. 13 of the 16 NLA head referees, 35 players, coaches and general managers from 6 different NLA Clubs and over 170 fans and spectators participated in the study. Today's use of technology in the Swiss ice hockey league is very well perceived and accepted by all stakeholders. The study has shown that if technology in refereeing is used in a clearly defined manner it can be of substantial help in raising the referee's overall performance and credibility and that the use of video analysis does not negatively impact upon the referees' authority. Existing research (Dorsch & Paskevich, 2007) shows that technology could help reduce two factors that cause referees' major stress namely the fear of failure and the fear of being physically harmed. The often heard negative impact that technology-led-refereeing disrupts the game flow does not appear to have been validated. To conclude therefore, it is clear that the potential benefits of technology-led-refereeing far outweigh its potential pitfalls, as long as the operating framework is clearly defined prior to its launch.

P5.27

Mental Toughness Perceptions in Elite (UK) Football Refereeing.

Tom Fawcett (University of Salford - UK)

Research into Mental toughness (MT) in Elite Officiating is yet to receive sufficient interest in comparison to that dedicated to both elite athletic and coach populations.

This paper will provide an overview of an investigation into the perceptions of Mental Toughness Performance of Elite Football referee's actively engaged in competitive games in 2009-10 (UK). It will also consider the perceived importance and relevance of MT characteristics by officials to direct competitive performance.



Direct group comparisons were analysed between Premier League (n=14) and Football League (n=55) officials for perceptions of Total MT, Physical Toughness, Mental Toughness and Emotional Toughness using the Mack (2008 MeTB inventory). Similarly, perceptions of perceived importance and refereeing relevance of MT characteristics were also compared for both cohorts.

Data was analysed using descriptive and inferential statistics (One way ANOVA) and revealed significant differences (<0.05), between levels of official's perceptions of all aspects of MT, perceived importance ratings and game relevance. Findings indicate that higher levels of refereeing are related to increased perceptions of mental toughness performance, increased perceived importance ratings MT and MT relevance for the higher level Premier referee's compared to the Football League cohort. However, lower level referee's still registered high MT perceptions, importance / relevance.

Findings indicate that MT perceptions are considered to be high / very high in Elite (UK) refereeing populations; MT has a high level of perceived importance and game relevance, by both samples.

Recommendations and implications for Applied Practice will be included.

P5.28

The use of mental training by professional and young aspiring soccer (football) referees in Japan.

Yasuhisa Tachiya (Japan Institute of Sports Sciences, Japan)

The sports psychology section of the Japan Institute of Sports Sciences (JISS) has supported professional soccer referees by using mental training (MT) since before the 2002 FIFA World Cup Korea/JapanTM. Through the MT sessions, they recognized that using MT techniques significantly enhanced their refereeing abilities (Tachiya and Sugo, 2003 ; Tachiya et al, 2005). Meanwhile, the Japan Football Association (JFA) established in 2004, a two-year, "Soccer Referee College" whose purpose is to develop a "world-class" standard for training to young aspiring Japanese soccer referees. The purpose of this presentation is to report on the individual sessions of professional referees and young aspiring soccer referees' MT classes in the "Soccer Referee College" in Japan.

After the 2002 FIFA World Cup Korea/JapanTM, the professional referees have been supported by using MT individual sessions in order to enhance their performance in a game. The details of the sessions: 1) Listed personal mental problems occurring throughout a soccer match, 2) Asked and listened each professionals' state of body and mental conditions, 3) learned MT techniques because of preparing international matches and Japanese professional league.

In addition, young aspiring Japanese soccer referees have learned MT techniques, 50 hours more in "Soccer Referee College" and utilized those techniques in their games. The details of the MT classes: 1) To acquire psychological techniques those use these following skills a) relaxation training, b) imagery, c) self-talk, d) game plan and routine and others. 2) To develop the following personality traits in each referee: gentleness, fairness, and self-possession. 3) The classes had used personality/anxiety tests for self-analyzing, and anecdotal evidence offered by professional soccer referees to help aspiring referees focus their philosophy of soccer refereeing.

P5.29

History of Therapeutic use of sports activities in psychiatric treatment facilities.

Bela Hatlova (University of J.E.Purkyne, Czech Republic)

Milena Adámková Ségard (University of J. E.Purkyne, Czech Republic)

Psychiatric theory as well as practice always reflected the general historical process of development of the society. Inclusion of physical exercise in regime treatment of psychiatric subjects was a response to the arising physical education in 19th century, whose activity was always historically connected with social activities. Within the framework of the care of mentally ill people, there did not exist any ambulant care, there were not any psycho-pharmaceuticals. But it was possible to hire a teacher of physical education, who was coming to the hospitals to perform simple gymnastic, athletic and breath exercise with the patients. The exercise in treatment with sports exercise was rising after World War II. At the departments were organising body exercises with activation or relaxation effects. On a gradual basis sports and simple yoga sets were included in the exercise. The exercise was selected with regard to the diagnosis, illness seriousness, current psychosomatic condition of the patient and treatment focus. On the basis of his empiric experience it was possible to create foundations of the psychomotor therapy. Promotion of the co-operation between psychomotor professionals, physiotherapist and sport psychologist coming from different countries and



regions of Europe. The III. conference of the international council of physiotherapy in psychiatry and mental health in Lund was a great success.

P5.30

Effects of Physical Activity on Children with Attention-deficit/hyperactivity disorder.

Chiao-Ling Hung (National Taiwan Normal University, Taiwan)

Yuan-Shuo Chan (National Taiwan Normal University, Taiwan)

Chin-Shan Ho (National Taiwan Sport University, Taiwan)

Jhih-Cian Liao (National Taiwan Normal University, Taiwan)

Yu-Jung Tsai (National Taiwan Normal University, Taiwan)

Shiau-Yun Hung (Taipei Municipal University of Education, Taiwan)

Chung-Ju Huang (Taipei Physical Education College, Taiwan)

Shih-Chun Kao (National Taiwan Normal University, Taiwan)

Tsung-Min Hung (National Taiwan Normal University, Taiwan)

The purpose of current study was to examine effects of physical activity on children with attention-deficit/hyperactivity disorder (AD/HD). 18 children with ADHD were given 8 weeks of physical activity enhancement program. The Go-Nogo task and the Basic Motor Ability Tests-Revised (BMAT-R) were administered before and after the program. A series of paired t-test were employed to examine the difference between pre and post scores of the BMAT-R test and the Go-Nogo task. In BMAT, 8 weeks of physical activity program improved some subtests of the basic movement ability of children with ADHD. For the Go-Nogo task, no difference was found on the mean RT between the pre- and post- test. However, both response accuracy and response variability showed significant improvement after the physical activity intervention. In Conclusion, the response accuracy and variability of children with AD/HD were improved after physical activity intervention program. These findings suggest that physical activity may improve inhibition control and sustained attention of children with ADHD.

P5.31

Self-regulation strategies to enhance well-being and performance in a medical context: Could physical activity and sport be the answer?

Marie-Claude Gagnon (University of Ottawa, Canada)

Natalie Durand-Bush (University of Ottawa, Canada)

Self-regulation is a self-directed process allowing individuals to proactively plan and generate thoughts, feelings, and actions based on personal standards and goals, and adapt them when necessary to effectively respond to their changing environment (Boekaerts, Maes, & Karoly, 2005). Studies have shown that different types of performers including athletes and medical students can enhance their performance and well-being by participating in a self-regulation intervention (Callary & Durand-Bush, 2008; Collins & Durand-Bush, 2010; Simon & Durand-Bush, 2009). The purpose of the current study was to extend the results of Simon and Durand-Bush (2009)'s in-depth multiple case study to examine self-regulation as a potential approach to reduce stress and increase the well-being and performance of physicians and medical students. To this end, 10 medical students and 10 physicians involved in medical education in a Canadian university completed questionnaires and participated in a 60 to 90 minute interview targeting their self-regulation, psychological well-being, stress, and performance. This presentation will highlight the findings resulting from the content analysis of the interview data, including the self-regulation strategies used by the participants to manage their thoughts, feelings, and actions in an attempt to improve their psychological well-being and performance, and cope with stress. The participants' use of physical activity and sport to stay well and manage the adversity they face will be discussed, as this was one of the most common strategies. The results of this study shed light on the self-regulatory needs and barriers of this population and serve as impetus for future interventions.



P5.32

The Effect of Acute Exercise on Executive Function in Attention Deficit Hyperactivity Disorder Children.

Suyen Liu (National Chung Cheng University, Taiwan)

Background:

Children with ADHD are commonly seen to have perseverative behavior and a high rate of disciplinary problems. Relevant studies indicated that prefrontal cortex plays a major role in cognitive function and if damaged could result in children with ADHD having a poorer performance on executive function tests than their peers.

Purpose:

The purpose of this study was to compare the differences of the executive function between exercise group and non-exercise group after a moderate acute bout exercise following by Wisconsin sorting card test (WCST) and Stroop test.

Methods:

40 of 3rd~6th grade students were randomized into two groups. 1. Acute exercise group: 30-min of running on a treadmill at 55%~70% of estimated MHR. 2. Control group: watching a DVD of for 30-min. Executive function tasks (Stroop test, WCST) were performed before and after a treatment condition.

Results:

1. On Stroop test there were no significant differences found in SW/SC and SCW between two groups. 2. On WCST test the items of TA (the number of trials were administered), NE (non-perseverative-error), and CC (the number of categories completed) had shown an improvement in exercise group but not statistically significant than control group.

Conclusion:

1. Acute exercise didn't enhance the executive function for children with ADHD but still showed an encouraging improvement performing on the TA, NE, and CC. These results suggest that the effects of acute exercise could improve their shifting and plan-forming ability, but not on their perseverative behavior.

P5.33

Psychological factors associated to the practice of physical activity: A study with practitioners and individuals who dropout from exercise.

Tatiana Capelão (School of Psychology, University of Minho, Portugal)

A. Rui Gomes (School of Psychology, University of Minho, Portugal)

This study involved 153 participants, divided into two groups: "exercising group" (66.7%) and "dropout group" (33.3%). First, we assessed the psychological dimensions (after the summer vacations) and secondly (7 to 8 months after the first evaluation) we collected the records of frequency of exercising to divide the participants into two groups. In the first step, we applied an assessment protocol that included: Intention of Practicing Physical Activity, Attitudes towards Exercise, Outcome Expectations of Exercise (Cruz & Gomes, 2006), and the Goal Orientations in Exercise Measure (Petherick & Markland, 2008).

Results showed that: i) the "dropout group" used to exercise less than a year and wanted to lose weight, while the "exercising group" presented a more consistent past behavior in exercise and wanted to maintain or increase their weight; ii) comparative analysis between groups showed that the "exercising group" assumed a more positive behavioral attitude toward exercise, assessed more benefits and less costs from exercising and was less ego oriented; iii) regression analysis revealed that attitudes and task oriented behaviors predicted intention in the "dropout group", while the benefits of exercising predicted intention in the "exercising group". This study highlights the importance of personal variables in exercising and showed a more positive psychological pattern in individuals who maintain the exercise practice.

In the practice of exercise the levels of dropout in the general population are very significant (Dishman, 1994; WHA, 2004). Thus it is crucial to understand the factors which distinguish individuals who maintain and abandon the practice of physical activity.



P5.34

Physical activity counselling for overweight, depressed women with type 2 diabetes mellitus.

Tony Morris (Victoria University, Australia)
Melissa Moore (Victoria University, Australia)
Erika Borkoles (Victoria University, Australia)

In the practice of exercise the levels of dropout in the general population are very significant (Dishman, 1994; WHA, 2004). Thus it is crucial to understand the factors which distinguish individuals who maintain and abandon the practice of physical activity.

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P5.35

Relationship of physical exercise and psychological health among disabled people.

Veronika Hóbor (Semmelweis University Sports Psychology Department, Hungary)

My objective was to investigate the relationship between regular physical activity and psychological health among disabled. By reviewing the former literature I supposed that regular physical activity is attached to higher levels of psychological health among disabled.

115 disabled participated in this cross-sectional survey. 55 of them (including 11 Paralympic athletes) take part regularly in different sporting activities, 60 of them don't practice any physical exercise.

The results of the linear regression models revealed that the sporting disabled could be characterized by higher levels along all of the applied instruments (Satisfaction with Life Scale - Diener et. al. 1985; Psychological Well-being - Ryff, 1989; Psychological Immune Competence - Olah, 2004) compared to non-sporting counterparts. Although these differences were not significant on all of the subscales, the results can provide a relevant data to the literature on disablement.

Interesting interactions were also found between the origin of impairment and sport. It seems that those who acquired the impairment could be more affected by physical activity than those with congenital impairment. The data in accordance with the former literature suggest that physical activity could lead to a better comprehension of life. Sports could convey well-being through finding a meaning and coherency of what has happened and how life is going on.

My study, in accord with earlier international literature, supports that regular physical activity goes hand in hand with higher level of psychological health among disabled. As this field needs more investigation, I determined some possible directions for further research.



P5.36

The effect of competitive level and status in football competition motivation, cohesion and perception of success.

Dora Ferreira (Sport Sciences School of Rio Maior, CIDESD, Portugal)

The main goal of this study was to compare the self-determination, cohesion and the perception of success in 198 football players level of competition (juniors A and B, N=100; adults players, N=98) and status (field-player=116; substitutes, N=82). Players completed the Portuguese versions of the Group Environment Questionnaire, Perception of Success Questionnaire and Self-Determination Continuum application. The data were analyzed through study of ANOVA-two way, with $p > .05$.

Results showed differences between level of competitions, juniors presented higher value of Group Integration in relation to the task (GI-T) than adult players. When the groups are compared according to status, results indicated that substitutes showed lower levels of Group Integration in relation to the Social (GI-S, $p = 0.038$), Individual Attraction to the Group Social aspects (IAG-S, $p = 0.003$) and higher levels in AMOT ($p = 0.032$). This study doesn't support the hypothesis that there are differences between players' level and status regarding perception of success.

P5.37

The Effect of Role Ambiguity on Competitive State Anxiety in football.

Edna Campo Grande (Sport Science School of Rio Maior, ESDRM, Portugal)

Carla Borrego (Sport Science School of Rio Maior, ESDRM, Portugal)

The purpose of this study is examining the relationship between role ambiguity and state anxiety in 286 youth football players. Consistent with multidimensional anxiety theory (Martens, Vealey & Burton, 1990), it was hypothesized that role ambiguity would be positively related to cognitive but not to somatic state anxiety. Consistent with our hypothesis, the role ambiguity is positively related to state anxiety. We found that the main predictor of somatic state anxiety is the scope of offensive responsibilities and dimension defensive role consequences is the main predictor of cognitive state anxiety.

P5.38

The effects of self-modeling and music on efficacy beliefs among young elite football players.

Erik Hofseth (Norwegian School of Sport Sciences, Norway)

Anne Marte Pensgaard (Norwegian School of Sport Sciences, Norway)

According to Bandura (1997) past behavior is the most powerful source of self-efficacy. Additionally, music has shown to enhance efficacy beliefs among athletes (Bishop, Karageorghis & Loizou, 2007). As video analysis is a commonly used assessment tool in football (Carling, Williams & Reilly, 2005) and music is highly available, the opportunity to create a multimedia based tool to facilitate the players' efficacy beliefs are highly present. Based on such reasoning it was hypothesized that self-modeling and self-selected music, combined, would be a potent efficacy source among young footballers.

The current study investigated the effectiveness of two self-modeling procedures, one with self-selected music and one without, on self-efficacy and collective efficacy. The study had an RCT design with two intervention groups and one control group. Participants were 22 male elite football players aged from 16 to 19 years.

Results revealed that self-modeling accompanied by self-selected music can enhance self- and collective efficacy. However self-modeling without music did not affect self-efficacy nor collective efficacy.

One explanation to these results is that the music might act as an attention aid, focusing the observers' attention towards the modelled behaviour. Further, it might indeed function as a retention trigger, recalling memory of successful past performance experiences. Finally, there is also the possibility that the music solely has manipulated the participants' efficacy beliefs.

In conclusion, the combination of self-modeling and music seems to be a potent efficacy source among young footballers.



P5.39

Sport motivation and coping strategies evaluation in soccer athletes from Paraná/BR.

Leonardo Pestillo de Oliveira (Maringa College Center, Brazil)

João Ricardo Nickenig Vissoci (Inga College, Brazil)

José Luiz Lopes Vieira (Maringa State University, Brazil)

Lenamar Fiorese Vieira (Maringa State University, Brazil)

The objective of this research was to investigate motivation and its relation to coping strategies in soccer athletes. Participants of the study were 182 professional and non-professional soccer athletes, with ages ranging from 13 to 18 years. Measure instruments were: Sport Motivation Scale and Athletic Coping Skills Inventory-28. Data analysis was performed through descriptive statistics, Shapiro-Wilk and Mann-Whitney tests and Spearman coefficient. Intrinsic motivation was high for both groups, as well as the athletes' most used motivational style during soccer practice, without the need of apparent external contingencies. The coping strategy more used by the professional athletes was confidence and achievement motivation; as for non-professional athletes were the adversity confrontation, confidence and achievement motivation, and trainability, evidencing that non-professional athletes did not show a specific coping strategy when facing stressful situations found in soccer practice. A correlation was observed between self-determination and the sport confrontation index for both groups, these results mean that as higher are self-determination of the athletes higher will be the capacity to overcome stressful situations during sport practice. Therefore, motivational factors shown might be considered as influences in the utilization of soccer athletes' coping strategies.

P5.40

Outdoor Training As A Methodology For Maximising Emotional Intelligence In Children: Experimental study on a soccer school.

Mário Santos (Universidade Granada, Spain/Portugal)

The word "Talent" is the keyword in any type of organization and institution, supported by a change in mentality, coincident with the entry into the twenty-first century, and researchers are beginning to call into question the IQ (intelligence quotient), as a predominant factor for achieving success socially and professionally, going to defend the EQ (emotional factor), defending his work in children and young people to equip them with skills in differential development of the individual, and so we can develop "Talent."

In this study we sought to assess the methodology of "Outdoor Training", worked in football, more specifically a football school, in order to test whether this methodology often used by consultants working for the social and emotional skills of entrepreneurs, is also valid for work skills of children and young people, thereby developing their emotional intelligence.

To this end we opted for an experimental study, which included two groups of 30 children, a total of 60, one working as an experimental group and the other as control group. They were students of the Manchester United Soccer Schools. Lisbon, Portugal. For the assessment of emotional intelligence used the Emotional Quotient Inventory Bar On: Youth Version (Candeias et al., 2008).

The findings point to the evidence of improvements in the skills of emotional adaptability, interpersonal, intrapersonal (positive impression) intrapersonal (emotional expression), Stress management.

P5.41

Self-regulation of learning, performance level, and relative age in elite youth football players.

Tynke Toering (University of Groningen, Netherlands)

Marije Elferink-Gemser (University of Groningen, Netherlands)

Geir Jordet Norwegian (School of Sport Sciences, Norway)

Gert-Jan Pepping (University of Groningen, Netherlands)

Chris Visscher (University of Groningen, Netherlands)

The present study examined the relationship between self-regulated learning and performance level within a group of elite youth football players (11-17 yrs), whilst controlling for relative age. Self-regulation of learning is thought to help individuals learn more effectively (Zimmerman, 2006), and it has been found that elite youth



football players score higher on self-assessed self-regulated learning than non-elite players (Toering et al., 2009). The relative age effect (RAE), meaning that players born early relative to the selection cut-off date are by far overrepresented in youth selection teams (e.g., Helsen et al., 2005), indicates that selection of youth football players seems to be mainly based on maturation- and experience-related variables. As relative age may affect the relationship between self-regulated learning and performance level through its association with maturation, experience, and performance level, relative age was controlled for. A logistic regression analysis, comparing international and national level players, revealed that higher reflection scores were associated with a higher performance level (OR = 1.69), while the amount of practice and competition was equal in both groups. Results also indicated a stronger RAE among international level players. The equal amounts of practice and competition combined with the differences in reflection scores suggest that reflective thinking enables international level players to benefit more from practice. Given that international level players scored higher on reflection, irrespective of their relative age, it is speculated that it may be more informative to use variables associated with development potential in talent identification procedures rather than only discrete performance measures.

P5.42

Motivation In The Selection Process Of Talent In Soccer.

Vinicius Barroso Hirota (Universidade Presbiteriana Mackenzie/ UNIABC, Brazil)

Ademir de Marco (UNICAMP, Brazil)

Carlos Eduardo Lopes Verardi (Universidade Estadual Paulista (UNESP), Campus Bauru, Faculdade de Ciências, Departamento de Educação Física/FAMERP - Brazil)

Motivation is the condition of the goal's orientation that a soccer player has, so the aim of this study was to evaluate the motivational orientation of 151 young soccer players of aged 10 and 18 who are in the process of talent selecting within the clubs of São Paulo's city, Brazil. This is a descriptive study account in which the applications of TEOSQ scales, and calculate statistics such as Alpha Coefficient and the average of each orientation. The results of Alpha's Ego orientation was 0.67 and 0.90 for Alfa's Task orientation, showing satisfactory compared with the literature. Referring to the total group's average, the Task orientation was 4.14 and 2.36 for Ego orientation; at ages between 10 and 13 years the average of Ego orientation was 2.39 and the Task Orientation was 3.96; between 14 and 15 years revealed average, the Task orientation of 4.16 and Ego Orientation was 2.38, and finally for the age of 16 to 18 years the average's Task orientation was 4.31 and 2.32 referring to Ego orientation. We concluded that the group of young soccer players have prevalent characteristics of Task Orientation believing in your effort, seeking satisfaction and pleasure in an activity and judge their success by the quality of their work.

P5.43

Specific perceptual basketball coach and his relationship with declarative knowledge of the game.

David Cárdenas Vélez (Universidad de Granada, Spain)

José César Perales (Universidad de Granada, Spain)

P. Almendral (Universidad de Granada, Spain)

J. Courel (Universidad de Granada, Spain)

M. T. Miranda (Universidad de Granada, Spain)

F. Alarcón (Universidad de Granada, Spain)

Introduction:

The aim of this study was to test the influence that the declarative knowledge has on the specific perceptual ability of basketball coaches, as well as to develop an automated system that could allow an improvement of the mentioned specific perceptual skill.

Methodo:

An automated program of perceptual training was developed, in Visual Basic language, in which it was combined the presentation of sequences of images corresponding to high level competitive games with questions to test the information quantity and quality that coaches were able to perceive. It was also designed a declarative knowledge test of the basketball game, following the proposed model by McPherson, S. L. y Thomas, J. R. (1989). This test was conducted before and after the beginning of the training phase. It was put into practice an



experimental design between a control and an experimental group, each one consisting of 18 individuals. The groups were formed through the blocking technique. The experimental group carried out a training program which included 20-40 minutes sessions (in ascending order). 3 sessions per week were executed during a 6 week period. A final assessment was made in the last session (posttest).

Results:

After correlating both declarative knowledge test and the learning curve shown by the individuals after the training process, the results indicate that coaches with a greater knowledge of the game have a higher specific perceptual ability.

It was also observed a meaningful improvement of the perceptual skill in the experimental group.

P5.44

Coaches' evaluation of the sport psychological input in Flemish sport federations and top sport schools.

Debbi de Caluwé (Vrije Universiteit Brussel, Belgium)

This research focused on Flemish coaches' expectations and evaluation of sport psychologists working in sportfederations and/or topsportschools within a government-funded project.

Participants included 21 coaches (4 women) in 7 different sports (i.e., basketball, cycling, gymnastics, swimming, table tennis, tennis, track and field). Data was collected using a questionnaire combining quantitative and qualitative items. The quantitative items were scored on a five-point Likert scale (1=I don't agree at all – 5=I totally agree).

Results showed that coaches were positive (4.25) about the sport psychologists and the services they provide and that they wanted to continue working with them (4.17). Coaches expected (4.43) and believed that they were involved (4.4) in the mental training of their athletes. Coaches reported that they were present (3.14) during mental sessions, that their knowledge of mental skills training has increased (4.14) and that they felt capable to teach and train mental skills to their athletes (3.86). According to the coaches, athletes used the mental skills during practice (3.64) and competition (3.19), although there is room for improvement.

We concluded that the initial phase of this project showed its additional value for coaches. This finding was confirmed in research with sport psychologists and elite-sport coordinators.

By including sport psychology in coaching educations, coaches gain knowledge and preconceptions about sport psychology can be countered. This enables them to integrate mental training in their daily training.

A need was identified with regard to the structured and detailed evaluation by athletes and parents of sport psychologists and the services they provide.

P5.45

Change in Coaches' Sense of Values in Experiences with Self-conflict in an Athletic Club.

Katsuhiko Kotani (Hokkaido University of Education, Japan)

Shiro Nakagomi (University of Tsukuba, Japan)

Daisuke Takeda (Japan Institute of Sports Sciences, Japan)

Masashi Suzuki (Gifu University, Japan)

The purpose of this study is to identify situations where coaches face self-conflict, and to clarify their mental changes that occur through the experience of this self-conflict.

Although the conflicts that coaches may experience in athletic club activities are problematic, they also offer an opportunity for the coaches to develop mentally. However, a number of the previous studies on self-conflict have confined themselves to considering how to solve problems, and have not paid much attention to the mental changes that self-conflict brings to coaches.

This study conducted a screening survey for 110 coaches with a free-description questionnaire, asking them what situations worked as a turning point. Then 22 coaches were selected who described the various situations they had experienced. The characteristics of their mental changes due to self-conflict can be summarized by the following four points. 1) Coaches tend to experience self-conflict when they face "an environmental change" and a "discrepancy in values between themselves and their students." 2) When the conflict occurs, coaches tend to change their own values by experiencing "switching directionality" and by



"getting a wider point of view." 3) Some coaches reinforce their own beliefs through the experience of the self-conflict. 4) On the other hand, other coaches give up trying to resolve their self-conflict, and change their coaching methods. However, through giving up the attempt to resolve their self-conflict, coaches can distance themselves to some degree from their students and problematic situations, and as a result, they can enrich their coaching instruction.

P5.46

Learning Sources Reported By International Level Coaches.

Minna Blomqvist (Research Institute for Olympic Sports, Finland)

Mikko Häyriäinen (Research Institute for Olympic Sports, Finland)

K. Hämäläinen (Research Institute for Olympic Sports, Finland)

According to Trudel & Gilbert (2006) coaches learn how to coach mainly through large-scale coach education programs (acquisition) and through experience (participation). As coaches prefer to learn from a variety of learning sources objective research at different levels and sports is needed to support the informal lifelong learning of coaching skills and to develop the structures of formal coach education programs.

The present study examines how Finnish international level coaches (N=516) learn to coach and develop their expertise during their coaching career. A web based survey was conducted with coaches from a variety of sports. A wide range of data was collected with a questionnaire including demographics, goal setting, coaching motives, current coaching position and the primary sources of coaches' learning via acquisition and participation. Coaches were asked to rate the given sources of information and experiences on a three point scale (not important – important – very important).

The findings revealed that 80 % of the coaches rated everyday coaching practice as very important source of coaching knowledge and skills. Interaction with other coaches (coaching network) was identified as very important learning source by 55 % of the coaches, observing coaches from your own sport by 54 %, reflecting on past coaching by 50 % and experience as an athlete by 50 %, respectively. Formal coach education arranged by sport federations was rated as very important by 43 % of the coaches. How these learning sources varied in terms of coaching experience and the level of coach education were also analyzed.

P5.47

The Analyzing Of Attitudes Of Prospective Physical Education Teachers Towards Their Profession.

Suleyman Munusturlar (Physical Education Teaching Department, Turkey)

This study analyzes prospective physical education teachers' attitudes towards their teaching profession. The total field under survey of this study comprises the prospective physical education teachers studying in the department of Physical Education Teaching in Abant İzzet Baysal University in the province Bolu. 45 female and 88 male a total of 133 prospective teachers from this department, studying at the first, second, third and fourth grades have voluntarily participated in the sample of this research. A new questionnaire named as "General Data Form" designed by researcher and "Attitudes Towards Teaching Profession Scale" designed by Özgür (1994) was used in this study. The assessment of data was evaluated by One-way ANOVA and Independent Samples T-Test.

Analysis of the data revealed that there are significant difference in students' scale scores according to gender, with female had scores higher than male ($p < 0,05$). There are also significant difference in education levels of the class in which teacher instructs ($p < 0,05$). It was observed that as the class level increases, attitude points increase. Scale scores indicates that positive opinions of prospective teachers are higher than negative opinions about future of teacher profession ($p < 0,05$).

In addition to, prospective teachers' ages, high school types, learning level of their parents, appreciation statues of studying in this department, education existence of an acquaintance working in or retired from this profession and whether they think of working or not working in this profession in the future created no significant differences in their scale scores.



P5.48

Youth Volleyball Trainer's Social Skills and their Development by Video Interaction Guidance.

Veronika Baláková (Faculty of Arts, Charles University, Czech Republic)

Abstract:

This study investigated issues relating to the impact of social contact and social skills of volleyball trainers on the effectiveness of training and creating a favorable team climate. The project used case studies of 6 youth volleyball trainers working with Video Interaction Guidance (VIG), supplemented by questionnaire data, and comparisons are made with another 6 trainers working without VIG.

VIG was utilised for the intervention, to support youth volleyball trainers and the development of both their professional and social skills. The CBAS (Coaching Behavior Assessment System) was also used, thus allowing direct observation and coding of trainer behavior during training sessions. Results are discussed in relation to relevant previous research literature.

The VIG method has yet to be used in the field of sport. In addition, and in connection with the CBAS system, this study becomes not only unique in the Czech Republic but also in Europe.

P5.49

Psychological Intervention In An Interdisciplinary Work In The Recovery Of Injured Soccer Athletes.

Andréa Duarte Pesca (Universidade Federal de Santa Catarina, Brazil)

Roberto Moraes Cruz (Universidade Federal De Santa Catarina, Brazil)

This study aimed to verify the psychological intervention (gradual relaxation technique, goal setting, visualization and deep breathing), through an interdisciplinary study between the psychologist and physiotherapist assisting in the recovery of injured soccer athletes. The study was conducted with three injured athletes from a professional football club from the capital of Santa Catarina, aged between 17 and 21 years. The three athletes were subjected to psychological intervention during their rehabilitation. On first contact with the psychologist, a questionnaire was applied to obtain information about the athletes and the time of their injuries. The athletes were subjected to two tests: the STAI test to assess the degree of anxiety, and the ADULT STRESS test to analyze the degree of stress. Thus, we concluded that: In all three cases there was a decrease in the level of anxiety and increased self-confidence. The stress levels were minimized in the case of athlete 3, who also showed an improvement in thoughts and even with complications recovered within the expected time. Athlete 1 recovered twelve days before the average expected time. The most striking results were: the empathy of the intervening professionals felt by the athletes, the athletes' satisfaction of the interdisciplinary work between the psychologist and physiotherapist during recovery, and the importance of interaction between these two professionals to improve the rehabilitation of athletes.

P5.50

The role of Estonian sport physiotherapists in providing psychological support for injured athletes.

Ave Amor (University of Tartu, Estonia)

Objectives:

This study investigated the knowledge and attitudes of Estonian sport physiotherapists towards the psychological aspects of sport injury rehabilitation.

Methodological Approach. Semi-structured interviews were conducted with 10 expert Estonian sport physiotherapists. Data from the interviews was analysed based on the cross – case analysis method.

Results:

1. Estonian sport physiotherapists believed athletes were often psychologically affected by injury and they were able to interpret an athletes psychological reaction to injury
2. Estonian sport physiotherapists were not able to describe any kind of psychological skills
3. Estonian sport physiotherapists do not use explicit any kind of psychological skills or interventions



4. Without exception, all participants described using implicit psychological skills or interventions
5. Estonian sport physiotherapists would like to know more about psychological aspects of sport injury
6. Despite of a lack in formal training in academic and applied sport psychology, participants in this study believed that they were able to support athletes psychologically.

Conclusions:

The interviewees in this study described a lack in formal training in academic and applied sport psychology and they were desiring further training in the psychological aspects of sport injuries. Clearly, if physiotherapists can be provided with a sound education in the psychological aspects of injury (i.e., how to facilitate and integrate psychological interventions into their work), then more effective treatment of the injured athlete is likely. In addition, based on current results an effective communication between physiotherapists and sport psychologists is needed in order to provide athletes with effective and efficient injury management.

P5.51

A Proposed Taxonomy Of Sport Injuries.

Constanza Pujals (Universidad Autonoma de Madrid, Spain)

Victor Rubio Franco (Universidad Autonoma de Madrid, Spain)

Maria Oliva Marquez (Universidad Autonoma de Madrid, Spain)

Every year it is observed in the field of sports an increase in the number of injuries suffered by sportspeople in all the categories and modalities. Opposite to the traditional biomechanical approach, the last decades have been the setting of case studies that have shown the relationship between psychological variables and the suffering from those injuries, as it could be the stress caused by the pressure surrounding the sportsmen that can lead him to display inappropriate or extreme behaviours that facilitate the injury. Thus, variables like the already mentioned stress, anxiety, self efficacy, the place of control or other dimensions of personality have been considered as being potentially related to the vulnerability to suffer from injuries (Kleinert, 2007, Olmedilla et al., 2006). However, nowadays there is not a consolidated standardized model for injuries from which to do a monitoring of the sportsperson and so discriminate both the physical and psychological events that can make him more prone to injury. And the first thing is the lack of a comprehensive and universal classification system. The objective of this case study is to create an empirical classification system of sports injuries. For this purpose, a sample of 345 Spanish sportspeople has been taken. From an analysis of conglomerations, a taxonomy is created including variables such as practised discipline, type of injury, the diagnosis, anatomical location, the triggering event, the seriousness, the treatment and the days on leave.

P5.52

Realisations of vulnerability: The impact of witnessing athletic injury.

Melissa Day (University of Chichester, UK)

Sports injury research has predominantly focused on the direct experience of injury from the perspective of the injured athlete (direct sensory victim), neglecting the potential effects on those who may have witnessed the event (indirect victim) or even those who may have listened to verbal reports. Despite this considerable research focus it may be proposed that trauma may not only result from directly experiencing an event but may also stem from witnessing an event without being personally involved (vicarious trauma). This study explored how athletes respond and cope after witnessing traumatic athletic injury in others participating in the same sport. Participants were eight competitive female artistic gymnasts who ranged in age from 21-25 years. All participants had witnessed a serious athletic injury of another gymnast that had required hospital treatment in the previous three years. Participants took part in semi-structured interviews in which they were asked to discuss their experiences of witnessing injury, including descriptions of the injury occurrence and their coping strategies. Data were analysed using hierarchical content analysis. Results demonstrated that following acute reactions to witnessing injury, participants experienced intrusive cognitions and engaged in avoidance coping. Participants gradually engaged in more approach coping strategies which served to lower their perceptions of vulnerability to injury. Despite the complex nature of trauma, suggestions may be made to assist applied sport psychologists working with athletes who have witnessed athletic injury to assist them in accommodating this new information into assumptions that will be adaptive in the sporting environment.



P5.53

A tailored wellness intervention for first year college students using internet-based technology: A pilot Study.

Alessandro Quartiroli (West Virginia University, USA)

Previously considered a “healthy population”, college students generally characterize their life with poor engagement in physical activity (Deng et al., 2005), poor nutrition (Levitsky et al., 2004), and increase of alcohol use (Nelson et al., 2009), overall during their freshman year (Ferrara, 2009). The first semester of college is critical in young adults’ lives for the impact on their future, also in terms of health and well-being (Medalie, 1981; Arnett, 2000; 2004). Based on all the benefits that PA and nutrition have in reducing risk factors for many diseases (i.e. Plotnikoff, et al., 2005) contrasted by the prevalence of unhealthy eating and low physical activity of college students (Ferrara, 2009), college freshmen have been considered a potential good target for this stud.

The intervention aims to increase awareness of current behavior patterns through self-monitoring, including psychoeducational components to help students adopt and maintain healthy habits. Computer-tailored interventions were found effective in increasing PA (Vandelanotte et al, 2005), nutrition, (Brug et al., 1998), and alcohol (Weitzel et al., 2007); and Internet has been used successfully in other behavioral change intervention (Patten et al., 2007).

The current study aims to evaluate the difference in effectiveness between a tailored self generated feedback and a “normative” feedback, delivered following the administration of an online-based survey addressing health behaviors (PA, diet, and alcohol use) in a Mid-Atlantic US institution. This first step wanted to analyze the usefulness ad feasibility of the system with a pilot sample of freshman students.

P5.54

Adolescent's self-determination to physical exercise practice.

Alexandro Andrade (Santa Catarina State University, Brazil)

Rodrigo Batalha Silva (Santa Catarina State University, Brazil)

Maick da Silveira Viana (Santa Catarina State University, Brazil)

Thiago Sousa Matias (Santa Catarina State University, Brazil)

Ricardo Brandt (Santa Catarina State University, Brazil)

Based on Self-Determination Theory (SDT; Deci & Ryan, 1985), this research investigated the relationship between motivational regulations for exercise and associated factors in adolescents Brazilian high school students. This is one of the first researches involving the SDT with a Brazilian sample. We conducted a cross-sectional study involving 471 adolescents aged 14 to 18 years old, students at a public school in Florianópolis/SC, Brazil. Questionnaires were used to conduct the survey: a) questionnaire used to characterize and b) the Behavioral Regulation in Exercise Questionnaire – 2 (BREQ–2; Markland & Tobin, 2004). The data was analyzed with descriptive and inferential statistics. In general, boys exercise more and more self-determined for exercise than girls. For both genders the internal regulations and the self-determination were positively associated with the quantity of exercise. The older and overweight girls had higher identified regulation. Among boys, students who are overweight were more amotivated and have lower intrinsic motivation. Over the period of study, adolescents who are studying in the afternoon period showed a higher self-determination index. The study concluded that adolescents more self-determined practice more physical exercise, confirming previous studies. The study showed that there are factors associated with the motivational regulations and that there are differences between girls and boys. These results may be useful for intervention with this population.



P5.55

Relations between basic psychological needs, behavior regulation and Intentions to practice optional sport in school and sport outside school.

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Luís Cid (Sport Sciences School of Rio Maior - ESDRM, Portugal)
Carla Borrego (Sport Sciences School of Rio Maior - ESDRM, Portugal)
Carlos Silva (Sport Sciences School of Rio Maior - ESDRM, Portugal)

Abstract:

The Self-Determination Theory (SDT) is a macro theory that concerns about the causes and consequences of self-determined behavior. For this reason, is one of the most popular and contemporary socio-cognitive approach to human motivation, that have been applied in the last three decades to different domains. The main propose of this study was to analyze the relationship between basic psychological needs (BPN) satisfaction, behavioural regulations and students intentions to practice sport besides the physical education (PE) classes. For such propose, participated in this study, 626 students of six and nine grade, of both genders (329 female; 297 male) and aged between 10 and 18 years old ($M=13.3$; $SD=1.7$). For the data collection were used the Portuguese versions of Basic Psychological Needs in Exercise Scale (BPNEsp) and the Perceived Locus of Causality (PLOCp). The intentions to practice additional sports in school (DE) and sports outside school (DFE), were assessed using a single item each. The main results revealed that, students who feel more effective in carrying out the proposed tasks in PE classes (satisfaction of competence), as well as those who enjoy and feel more pleasure from PE classes (intrinsic motivation) or who identify with its goals and give them more value/importance (identified motivation), are the ones that are willing to practice DE and DFE in the future.

P5.56

Advertising exercise programs: do men and women react differently?

Ines Pfeffer (University of Leipzig, Germany)

Women are more likely to engage in preventive exercise programs than men. Differences in sport preferences between men and women can be explained by different exercise motives. Gender role self-concept seems to be a good predictor of general gender differences in health-related motivation and behavior. Two announcements for a resistance training program, addressing gender specific motives like well-being and weight-control (condition A) and competence and skill improvement (condition B) and their effects on participation motivation in interaction with gender and gender role self-concept are compared.

$N=312$ participants (158 females; mean age 43.7 years, $SD=16.89$) were allocated at random to condition A or condition B. Gender identity was measured using the PAQ in its German translation and motivation was measured within the framework of the Theory of Planned Behavior.

The results imply that not gender, but gender role self-concept is able to detect differences in participation motivation depending on the condition. The results indicate a negative effect of the well-being condition on aspects of participation motivation in masculine in contrast to feminine participants. Further, the well-being condition compared with the competence condition can enhance aspects of participation motivation in feminine persons.

These findings are in line with results demonstrating that gender role self-concept is a good predictor of general gender differences in health-related motivation and behavior. Future studies should go on investigating how gender and gender role self-concept may affect perceivers' reactions to exercise advertisements.

P5.57

Influence of physical activity on well-being – a comparison of adolescents and adults.

Nadine Mewes (University of Konstanz, Germany)
Darko Jekauc (University of Konstanz, Germany)
Alexander Woll (University of Konstanz, Germany)

Introduction:

Until now, literature has neglected the role of age in moderating exercise effects on psychological well-being. Thus, the purpose of this study is to consider the relationship between physical activity and well-being depending on age.



Methods:

Therefore, cross-sectional data from an adult sample that consists of 428 persons aged between 33 and 56 years ($M = 45.0$; $SD = 7.5$) and an adolescent sample consisting of 1702 persons aged between 11 and 17 years ($M = 14.2$; $SD = 1.9$) were compared. For adolescents, well-being was measured by the KINDL-R Questionnaire (Ravens-Sieberer & Bullinger, 1998) and for adults by the Subjective Well-Being Questionnaire (Woll, 2004).

Results:

Using age, gender, social status and physical activity as predictors, 7.8% of variance of well-being for adolescents and 9.8% for adults could be explained by a linear regression. In the adolescent sample, age ($\hat{\alpha} = -.17$), gender ($\hat{\alpha} = .17$) and physical activity ($\hat{\alpha} = .10$) had significant effects on subjective well-being, whereas in the adult sample, social status ($\hat{\alpha} = .14$) and physical activity ($\hat{\alpha} = .25$) were significant predictors.

Discussion:

The results of this study indicate that with increasing age the relationship between well-being and physical activity increases. The comparison of the two samples shows that physical activity is the only age-independent predictor of well-being.

P5.58

The promotion of women's sport activity from a Spanish municipal institution: L'Eliana

Santiago López (Ayuntamiento de L'Eliana, Spain)

Irene Checa Esquivá (University of Valencia, Spain)

Eva M^a León Zarceño (University Miguel Hernández, Spain)

Juan González Hernández (University of Murcia, Spain)

In recent years more many sports council try to promote the sport in those populations that historically have not exercised before a systematic way. One of the target populations of such policies has been the female population, both in their early ages and in the elderly. This population group has its distinctive features and the provision of physical activity and sport should be directed to meet their specific needs.

The aim of this study is to show the development of sport among women of a Valencian municipality of 16,500 inhabitants and make the planning of sports policies in the light of these developments. There is an increase of sport among women in all age groups, from 2005 until 2009, a 8.49% to 10.51% the percentage of women registered. Particularly, there has been a rise in regulated sports, both individual and team. In addition, due to the opening of a new sports center, the women who are between 20 and 45 years old who practice physical activity or maintaining cardiovascular center have changed. The study also provides what are the programs that the reference center has been carried out to achieve three objectives: to further increase women's sports with a suitable offer, continue to promote sports rules and create health programs for women between 20 and 45 years.

P5.59

Lifestyle and well-being of Slovene recreational runners at Ljubljana Marathon 2010.

Cecić Erpič Erpi (University of Ljubljana, Faculty of Sport, Slovenia)

Running became one of the most popular exercise activities in the past few years. In Slovenia, its growing popularity is evident in the increased number of people running on trails in urban environments as well as the runners attending organized recreational runs. Ljubljana Marathon (LM) is a fast growing event and this year's 15th attracted almost 18.000 runners from 35 countries. Among those more than 11.000 were adults, running 42, 21 or 10 km. Other participants were children, ranging from 3 years onwards and the growing popularity of running is seen in these categories as well. The aim of the study was to research lifestyle, psychological characteristics, training habits and health status of adult recreational runners. Sample consisted of 1.302 runners (648 male, 654 female; mean age: 36.15 years, SD age: 10.43 years), who participated in LM at the end of October 2010. Online Recreational Runners Integrated Questionnaire (RRIQ) was sent to the participants of LM. Although participation in the study was anonymous and the results were used only for the research purposes, majority of respondents sent their contacts and expressed willingness to take part in future research. RRIQ was designed for the purposes of this study and assesses runners' lifestyle, well-being, psychological and health characteristics and training habits. ANOVA showed some gender, age and educational differences in the researched psychological aspects (i.e. lifestyle and well-being).



P5.60

Better you are in sports performance; worse you feel about yourself in Taiwan.

Shu-ping Lin (Tamkang University, USA)

Hsiu-hui Ho (Tamkang, Taiwan)

Fu-hsiu Hsieh (Taipei Physical Education College, Taiwan)

Yung-Guan Lee (Taipei Physical Education College, Taiwan)

Student athletes are a special group in college due to their dual roles of being an athlete and a student. This dual role has complicated their career development. Career development for them has been a concern worldwide (e.g., Baillie & Danish, 1992). In Taiwan, career development for student athletes faces more challenges due to cultural stigma and lack of professional sports.

The research project aims to construct an intervention model to assist student athletes to make positive career transition. In order to assist the career transition of the students, an 18-week course program has been implemented. In this study, quantitative data were collected from 545 student athletes. Instruments, such as mental toughness scale (Huang, 2002), Brief COPE (Carver, 1989), the scale for the sense of career barriers (Chang, 2010), and Satisfaction with life scale (Pavot & Diener, 1993), were employed to investigate the relationships among these variables.

Data indicated the followings: 1) students athletes reported lower sense of self-confidence and satisfaction with their current lives, but higher concerns over their major and decision-making in general; 2) better the sports performance is, the higher sense of career barriers; 3) better the sports performance is, more negative coping methods, such as consuming alcohol, were employed to cope with stress; 4) the sense of mental toughness is negatively associated with the sense of career barriers and positively associated with the sense of life satisfaction.

P5.61

Manipulating autonomy during exercise in inactive women: Impact on affective responses.

Vazou Spyridoula (Iowa State University, Department of Kinesiology, USA)

Studies have shown that affect is related to self-reported and objectively assessed physical activity. However, little is known about the methods that practitioners can use to optimize the affective responses of exercisers. This study focused on perceived autonomy. Thirty-one women ($M = 20.7$, $SD = 1.7$ years), who were not regularly active, completed two 30-min sessions of treadmill exercise. During the first, they were free to adjust their speed every 5 min. During the second, they were told that the experimenter was controlling the speed but the speed was set to be the same as what they had chosen. The Activation Deactivation Adjective Check List was administered before and after the bouts and the Feeling Scale (FS) every 5 min during the bouts. The women reported less Perceived Choice after the bout at "imposed" speed and larger increases in Energetic Arousal after the autonomous bout. FS scores did not differ but the slope of the FS response to the bout at "imposed" speed was related to Amotivation ($r = -.41$, $p < .05$). Furthermore, there was a condition by exercise-history interaction for the Perceived Value of exercise; although women with ($n = 18$) and without ($n = 13$) a history of regular exercise did not differ in their perceptions of the value of exercise after the autonomous bout, those without a history perceived exercise as less valuable after the bout at "imposed" speed. Fostering perceptions of autonomy may be one method to improve the affective experiences of novice exercisers.

P5.62

On the edge of human limits: coping strategies among expert mountaineers.

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Joaquín Dosil (Universidade de Vigo, Spain)

A. Rui Gomes (Universidade do Minho, Portugal)

Mountaineering is a sport practiced in a high-altitude environment, implying the progression across different types of fields (snow, rock or ice). It is a highly risky and challenging complex sport (Burke & Orlick, 2003) that presents a number of unique characteristics in the world of sports, not only for its physical demands, but also for the significant appeal to the psychological condition of athletes (Burnik, Jug, & Tusak, 2002).

This study examines the sources of stress in the practice of expert mountaineering and the coping strategies



to deal with these stressors. For this purpose, we used a qualitative methodology through an in-depth semi-structured interview, and data treatment followed an inductive analysis procedure (Gould & Dieffenbach, 2002; Patton, 2002). The participants were ten expert climbers, five Portuguese and five Spaniards (Mean age of 40.5, SD=8.8 years). All the climbers have a large experience and a significant curriculum in mountaineering (M=24.2 years of experience, SD=7.2). The results revealed eight sources of stress, all of them intrinsic factors (Cooper, Dewe, & O'Driscoll, 2001) to the sport itself (e.g., risk of falling or the descent from the summit). In order to deal with the stressful situations, climbers mainly use active coping, planning of the situation, control of the negative thoughts and positive reappraisal of the adverse situations. These strategies suggest the coping ability of climbers to deal with the stressors, being these results consistent with research in other sport contexts with expert athletes (Burke & Orlick, 2003; Gould, Eklund, & Jackson, 1993).

P5.63

Psychomotor therapy in the treatment of eating disorders: systematic review.

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Bela Hátlová (J.E. Purkyně University, Czech Republic)

Michel Probst (Psychiatrisch instituut Sint-Jozef, Belgium).

Keywords:

Eating disorders, therapy, psychomotor-therapy, body, movement, exercise, body oriented techniques, movement oriented techniques, systematic review.

The goal of the present study is to structure and organize the knowledge of past researches on the use of Psychomotor Therapy in the treatment of Eating.

Disorders:

The design of the study is the qualitative design of Systematic

Review:

The results of this study encompass all studies which have been published in this field electronically and in English since 1970 . All these studies tested therapies using body and movement - oriented techniques on subjects in health care for eating disorders .

This work tries to cross - connect the knowledge gained from these experiments for the benefit of daily therapeutic practice as well as for future research . It also reveals the therapies most used and tested in this field.

Funding acknowledgements:

This study is carried out thanks to granted project GA UK No 2361/2007.



P6.01

Differences of attentional style between precision and team sport.

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Brezo Cortes (Centro Regional de Medicina Deportiva, Spain)

Athletes must have the skill of controlling his attention: to centre on the pertinent stimuli for a right performance, and to make the attentional changes that the situation demands. Different types of sports, such as team sports and precision sports, need different attention capacities. The aim of the present study is to know the attentional effective profile for precision and team sports. Seventy two sportsmen, 37 precision and 35 team sport, of high and low performance in both types of sports, complete the Test of Interpersonal Attentional and Style (T.A.I.S.). Methodology is descriptive. An attentional profile is obtained for each participant. Tables of contingency are used to get the percentage of sportsmen who obtain an effective attentional profile in each of the subgroups of the sample.

P6.02

Differences in psychological variables regarding exercise in specific socio-demographic groups among Estonian women.

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René Mõttus (University of Tartu, Institute of Psychology, Estonia)

As physical activity has many health benefits (USDHHS 2001) the purpose of the study was to investigate differences between specific social groups of women in psychological variables affecting leisure time physical activity (LTPA) to help possible future LTPA promoting interventions be more effective.

Method:

A package of questionnaires was sent via regular mail to a total of 1500 estonian women aged 18-50. The final adjusted response rate was a remarkable 65.7% (N=957). The sample was accurately representative regarding age and place of residence. The personality was assessed according to the Five Factor Model with a short Estonian version (Mõttus, Pullmann, Allik 2006) of IPIP questionnaire (Goldberg 1999), exercise motives were assessed with EMI-2 (Markland, Ingledew 1997) and barriers to exercise with a selection of common barriers from BBE questionnaire (Myers, Roth 1997). Self-reported leisure time physical activity was assessed with GPAQ (Armstrong & Bull 2006)

Results:

Openness to experience was a stronger predictor of amount of leisure time physical activity in women with higher education and no young children. Perceived lack of time was negatively correlated with reported LTPA only in women with high-school education. Lack of internal motivation was the strongest predictor for inactivity in women with higher education. Appearance-related motivation was related to actual reported LTPA only in women with high-school education.

Conclusions:

There exist differences in stable and less stable psychological variables affecting the leisure time exercise behaviour between different social groups. These differences should be taken into account when planning for practical physical activity promoting interventions.



P6.03

Dance and Music students: common and different psychological characteristics.

José Carlos Caracuel (University of Seville, Spain)

Ana García-Dantas (University of Seville, Spain)

Juan González (University of Murcia, Spain)

The aim of this study is to assess the similarities and differences between Dance and Music students. The sample was obtained from the Professional Dance Conservatoire of Seville ($n=119$) and the Professional Music Conservatoire of Jaén ($n=114$). All of them belonged to 1st, 2nd and 3rd -Middle Grade- of every specialty. In a voluntary way, they completed the MMEPC test (García-Dantas y Caracuel, 2009) and thanks to this, not only similar data have been found in both samples but also, typical characteristics of each interpretative discipline. Results show that there are common points in the relations established among self-esteem and other aspects; class climate and both extrinsic and intrinsic motivation; and the probability of dropping out together with the intrinsic motivation and self-esteem.

In the field of Dance are identified significant correlations between class climate and self-esteem and performance (activation level and execution), and between extrinsic motivation and pressure.

In the field of Music it is worth mentioning the statistical correlation between the intrinsic motivation and the performance; the pressure and the Conservatoire drop out; the class climate and the intrinsic motivation; and also the self-esteem and the extrinsic motivation.

In spite of the different learning concepts, it is inferred that the common aspects between both disciplines may be explained through their belonging to the field of the artistic interpretation and through the common characteristics of the Professional Conservatoires where both are taught.

Nevertheless, it is mandatory to take into account the particularities of each discipline in order to understand and to structure psychological interventions according to their needs.

P6.04

The influence of analogy vs. technical learning on attentional focus and performance under pressure.

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Bernd Strauss (University of Muenster, Germany)

Introduction:

It is assumed that conscious control of movement execution impairs automatic control processes and leads to choking in high pressure situations. The aim of this study is to extend the application of analogy learning in preventing choking to golf putting and to include an online measure of the proposed underlying attentional mechanisms. We assume that performance differences under pressure between analogy and technical learning groups are related to the amount of internally focused attention.

Method:

Golf novices learned the putting movement in a 300 putt learning phase. One group learned technically, the other learned with a pendulum analogy. After the learning phase participants were tested under low and high pressure conditions (lp1, hp, lp2) and attentional processes were assessed by a dual-task paradigm.

Results:

Both groups increased putting performance equally during the learning phase. The effect of pressure on putting performance was significant, $F(2, 78) = 3.72, p = .03, \eta^2 = .09$, and implies an improvement from lp1 to lp2. The significant effect of pressure on skill focused attention, $F(2, 78) = 11.54, p < .001, \eta^2 = .23$, is due to a decrease in accuracy from lp1 to lp2. There were no significant main or interaction effects of learning groups.

Discussion:

Analogy learning for golf putting is as effective as technical learning. Under pressure neither putting performance nor skill focused attention differed between the learning groups. This is why the results of this study do not support the predicted advantage of analogy learning in preventing choking under pressure.



P6.05

Behavioural regulation assessment in exercise domain: Exploring an autonomous versus controlled motivation index from the Portuguese version of BREQ-2.

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João Moutão (Sport Sciences School of Rio Maior ESDRM - CIDESD, Portugal)

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José Alves (Sport Sciences School of Rio Maior (ESDRM) - Research Center for Sports Sciences, Health and Human Development (CIDESD), Portugal)

Abstract:

The main propose of this study is the psychometric properties examination of the Portuguese version of Behavioural Regulation in Exercise Questionnaire (BREQ-2), applied to fitness centers exercisers. Besides that, an overall factor to measure autonomous and controlled motivation was postulated underpinned by the different types of behavioral regulation. These proposes were accomplished with a sample of 550 exercisers from private fitness centers, aged from 14 to 69 years. The results support the suitability of the five-factor and eighteen-items model, that lead us to one item exclusion ($S-B\chi^2=221.7$; $df=125$; $p=0.000$; $\chi^2/df=1.77$; $SRMR=0.06$; $NNFI=0.90$; $CFI=0.92$; $RMSEA=0.04$; $90\% IC RMSEA=0.03-0.05$). However, factor reliability showed some problems of internal consistency. In other hand, results of the hierarchical model underpinning two second-order factors, that comprise controlled motivation (external and introjected regulation) and autonomous motivation (identified and intrinsic regulation), showed acceptable fit to data ($S-B\chi^2=172.6$; $df=74$; $p=0.000$; $\chi^2/df=2.33$; $SRMR=0.07$; $NNFI=0.90$; $CFI=0.92$; $RMSEA=0.05$; $90\% IC RMSEA=0.04-0.06$), and reasonable reliability (controlled motivation=0.75; autonomous motivation=0.76). Those findings allow us to conclude, that Portuguese version of BREQ-2 (excluded item 17) can be used to measure the controlled and autonomous motivation (by an composite of factors), in exercise domain.

P6.06

A psychological preparation programme for the polish sports: The London 2012 project.

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Jan Blecharz (Academy of Physical Education in Krakow, Poland)

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Dariusz Nowicki (Koro in Olsztyn, Poland)

Tomasz Polgrabski (Ministry of Sports and Tourism in Warsaw, Poland)

Several description models have been suggested by writers interested in the psychological support process applied to sports, i.e. the Puni model of psychological preparation for competitions (1969, 1973), the 1990 Thomas model, which describes subsequent stages of achievement reinforcement in the psychology of sports (K³odecka-Rójska, 1999), the Polish model of directed psychological influencing for preparations preceding the Olympic Games, developed by Nowicki and Blecharz, the Practical Activity Programme (Brzeziński, 2002) etc. The authors analyse the models suggested and present their own solutions, aimed at a methodology of psychological preparations in the Polish sports. Theirs is a strategy model, which encompasses beginners, i.e. children and adolescents, as well as people at different career stages, including the élite prepared for Olympic Games or World Championships. The model comprises five main stages: 1) The initial recognition (defines the undertaken actions' initial causes and conditionings related to the psychological preparation programme e.g. age, sex, discipline, period of practice etc.); 2) Diagnosis and monitoring – individual and group assessment (the application of all accessible methods, techniques and research tools e.g. observations, interview, psychological and psycho-physiological tests etc.); 3) Conceptualisation – task formulation (the definition of the possible directions and means of psychological reaction); 4) Realisation (Practical Acting Programme aimed at the accumulation of knowledge and skills which are to be applied not only in training or sport competitions but also in everyday life; it should encompass the cognitive, emotional, behavioural, ethical and social sphere); 5) Evaluation and correction (The stage is to assist an appropriate evaluation of the reactions applied, also from the point of view of the opportunity to introduce changes and corrections into the programme at each of its earlier stages). The programme's assumptions constitute the foundation for the realisation of the psychological preparations programme on the way towards the Olympic Games in London 2012 by the Polish Sport and Tourism Ministry, The Polish Olympic Committee and the Sports Institute in Warsaw.



P6.07

A comparative analysis of psychological care in the polish olympic medical mission of the olympic games in Sydney 2000 and in Beijing 2008.

Marek Graczyk (Polish Olympic Committee, Medical Commission, Poland)

Background:

The history of a psychologist's involvement with the Polish Olympic team goes back over 25 years. His first official appearance was at the Olympic games in Moscow. Ever since the games in Atlanta, a psychologist has been appointed for both the summer and winter games. Although the nature of his involvement has slightly changed since Sydney 2000, his candidacy is still considered highly controversial and raises a fiery debate. The main controversy remains whether there is an actual need to appoint a psychologist when employing a personal psychologist. This presentation aims to describe the role and duties of a psychologist accredited by the International Olympic Committee (IOC), as well as their accomplishments. It is also a comparative analysis and review of tasks already accomplished at the 27th Olympic Summer Games: Sydney 2000 and at the 29th Olympic Games: Beijing 2008.

Material and methods:

At the Sydney 2000 Olympic Games a psychologist cooperated and offered his services to groups and individuals consisting of 149 sessions for 196 athletes, 98 coaches and members of the Polish Medical team, however only 49 athletes and 24 coaches attended his sessions. In Beijing 2008 the Polish Olympic team consisted of 269 athletes in 22 sport disciplines. The Polish Medical Olympic Team of 44 members included physicians, physiotherapists and three sport psychologists. The psychologists provided their services to groups and individuals (427 sessions, means: 486 hours, 40 minutes). The psychologist's task was to take care of the team's spirit and will for competing. The psychologist duty was to encourage optimism and synergy amongst trainers and athletes, from the very beginning. It was also his job to help find outlets for stress and destructive pre- and post start behaviors. The psychologist was to intervene and offer his help through individual sessions whenever there were incidences of interpersonal conflicts or negativity. His prime directive was not to overwhelm the trainers or the athletes and so his job had to be done discreetly and stealthily. Lastly, but not the least importantly, his task was to watch the activity of other psychologists from the other teams. The largest difference between Sydney 2000 and Beijing 2008 was that at the latter Olympic Games, three psychologists worked by means of a system of medical care, realizing common tasks. Due to the logistical impossibility of spending extensive time with the athletes, the psychologists limited their activities to the application of the so called intervention services: cognitive and behavioral trainings with biofeedback apparatuses, audio-video special programs for the visualization & simulation for their competitions. After each training and sometimes prior to training, the athletes were monitored with computer psycho-motor tests. The psychologists provided psychological and social help with concise advice, consultations and crisis intervention. They also observed and spoke with the medical doctors, physiotherapists, coaches and other members of the Olympic Beijing 2008 Polish Team.

Results:

The health care system at the Beijing 2008 games, prepared by the Polish Olympic Committee's (POC) Medical Commission, proved to be good. The survey form, completed by the athletes and coaches, reported that 85% of the participants were very satisfied with the services provided by the Polish Medical Team: Beijing 2008, as never before. Psychological aims in general, with the whole team, as well as with individual athletes, who cooperated with the psychologists achieved expected goals, however, almost 20% of the participants reached a level below their expected abilities both in Sydney 2000 and in Beijing 2008. Comparing psychological tasks completed in Sydney 2000 and in Beijing 2008, we can see considerable improvement, but comparing with other Olympic Teams such as China, USA and Great Britain our mental preparation and psychological care is still insufficient.

Conclusions:

The 29th Olympic Games: Beijing 2008 once again verified the thesis of the significant roles and tasks accomplished by a psychologist at the Olympic Games. The experience gained at the Olympic Games (O.G.) in Sydney 2000 and in Beijing 2008 established the need from all the teams to endure harsh weather conditions and other unexpected influences or unfortunate series of events. It also showed the need to increase the number of psychologists, not necessarily accredited members of the IOC. With regards to medical & psychological needs, preparations, based on the positive experience from the previous two games,



should begin as soon as possible for the London 2012 Olympics. Cooperation between psychologists and sports unions participating at the O.G. should also start as soon as possible. It is deemed important to psycho-educate both athletes and coaches and to teach them to contact psychologists via teleconference or Internet conferencing using such software as Skype, currently used by other Olympic teams.

P6.08

Strategies of thinking and their relationship to decision-making in the field of sport management.

Ahmed Salah El-Din Khalil (Helwan University, Egypt)

Amany Mohamed Mohsen Elsherif (Helwan University, Egypt)

The purpose of this study was to investigate the relationship between thinking strategies to the Managing Directors of the sports teams of the sports activities of individual and collective ability to make decisions, use descriptive method in the study procedures for relevance, study sample consisted of (75) Managing Directors of the group sports teams (22) football (18) basketball, (18) handball, and (17) volleyball, in addition to (80) Managing Directors of the sports teams of the individual sports (15) squash, (18), tennis (13) Shooting (17) Karate (17) swimming So that the total sample (155), use the tools of the study, the research tools first tools used User Manual – Preparation for Decision Making Scale by in Graham ID & O'Connor AM and Strategies of thinking Scale by General Federation of the American Society, The results indicated a relationship between some dimensions of thinking strategies and the ability to make decisions And there was a relationship between the dimensions of thinking strategies and decision-making For the benefit of Managing Directors of the group sports teams,

P6.09

Decision-making in elite badminton players.

Anne-Claire Macquet INSEP, France)

In sport, decision-making is important for athletes, who have to make the right decisions in a short time frame. The study aimed to identify the types of decisions the players made during a course of action and how players made them. Two teams of two male expert badminton players participated to this study. Data were recorded during two international matches and self-confrontation interviews. In interview, each player was invited to describe and comment upon his decision-making during the action. The interview transcripts were analyzed through a process of inductive analysis. Results showed three types of intentions during a rally: to maintain the rally; to take the advantage; and to finish the point. It also revealed eight types of decision taken in this situation: to ensure an action; to observe the opponent's response to an action; to realize a limited choice; to influence the opponent's decision; to put pressure on an opponent; to surprise the opponent; to reproduce an efficient action; and to play wide. A frequent decision was to put pressure on the opponent. Different information and knowledge were used to make decisions. Information referred to: actions of opponents, teammate and himself, and the shuttle trajectory. Knowledge incorporated: abilities and trust of the player, teammate, and the opponent's abilities; individual and collective rules; preceding event; expectations about the opponent's action; and consequences of the player's action. The results are discussed in relation to research that has considered decision-making in sports.

P6.10

Effects of acute resistance exercise on cognitive aspects of the wisconsin card sorting test in middle-aged adults.

Chun-Chih Wang (National Taiwan Sport University, Taiwan)

Chien-Heng Chu (National Taiwan Sport University, Taiwan)

Tzu-Hui Kuo (National Taiwan Sport University, Taiwan)

Chun-Wei Chiu (National Taiwan Sport University, Taiwan)

Yu-Kai Chang (National Taiwan Sport University, Taiwan)

A considerable number of researchers have discovered the beneficial effects of acute aerobic exercise on cognitive processes, and more recently, on executive function. However the studies of acute exercise on executive function rarely focused on middle-aged adults. In addition, the methods used to examine the



executive function are still under debate. Furthermore, only a few studies have been focused on other types of exercise modality, such as resistance exercise. Therefore, the purpose of the present study was to examine the effect of an acute bout of resistance exercises on executive function. Wisconsin Card Sorting Test (WCST), one of the main neuropsychological assessments for measuring executive function, was applied. 20 middle-aged adults (age = 44.9 yrs, SD = 5.81) were put through both exercise condition and control condition with a counterbalance order and were instructed to perform the WCST at the baseline and immediately following their performances of the treatment. The exercise condition consisted of localized resistance exercises at 70% of nine muscles' 10 repetitions maximal. A Paired-samples t-test was computed for differences scores between times on several subcomponents of the WCST, respectively. The results indicate that none of the significant differences were found for subcomponents of the WCST after the treatment intervention. The findings suggest that resistance exercise-related benefits might not be sensitive to the executive functions measured by the WCST. Possible interpretations of the results are discussed.

P6.11

The effect of implicit and explicit learning methods in the development of decision making skill under stress conditions.

Eleni Zetou (Democritus University of Thrace, Greece)

Afrodite Lola (Aristotle University of Thessaloniki, Greece)

George Tzetzis (Aristotle University of Thessaloniki, Greece)

The purpose of this study was to evaluate the effectiveness of implicit and explicit learning methods on decision-making under stress conditions. 48 participants were randomly assigned into four equal groups. The experimental teams practiced in simulated laboratory conditions by watching videos from volleyball games as well as field training with volleyball skills. The first group followed the explicit learning method. The second group followed the implicit learning method via use of concurrent secondary task. The third group was a combination of implicit and explicit learning method and the fourth group was the control group. Anxiety conditions were created by evaluating and publicizing the results of the performance. Their anxiety was measured with a questionnaire (CSAI-2: Martens, Burton, Vealey, Bump, & Smith, 1990), during the pre and the post-test. The reaction time and correctness was measured. The mixed factorial analysis of variance was used (4 groups x 3 measurements) with repeated measurements on the last factor, so as to find the differences between the groups and measures. From the analysis it was found statistical significant interaction ($F(9, 45) = 88,06, p < .05$) and a significant main effect ($F(3,45) = 147, p < 0.05$) for the measurement periods and the learning methods ($F(3,45) = 11,04, p < 0.05$). From the Bonferroni post hoc analysis it was found that the combined method was found to be the most efficient method for both reaction time and correctness of the response. It was also found that the combined and implicit method were more efficient than the explicit method, under stress conditions, probably because the knowledge acquisition with the explicit method is not affected by the stress that the athlete develops. It seems that the use of explicit methods of exercise can contribute in the improvement of their perceptual abilities and in particular in decision-making and accelerate the improvement if perceptual expertise for novice athletes.

P6.12

Associations between individual perceptions of team members, team-cohesion and 'on the pitch' decision-making in football.

Gert-Jan Pepping (University of Groningen, Netherlands)

G. J. Luesken (University of Groningen, Netherlands)

Background:

Research to date in sport psychology has mainly focused on the individual athlete and the necessities they need to achieve expert performance. In doing so, the impact of the (social, emotional, etc.) performance environment in which an athlete prepares and competes is often overlooked. In team sport such as football individuals as well as the team mutually influence team and individual performance. In the current study we examined the influence of interpersonal relationships on decision-making in football. We investigated the relationship between team member perceptions of each other, team cohesion and 'on the pitch' decision-making behaviour.



Method:

Two Dutch youth teams of the professional football academy of s.c. Heerenveen were studied using several methodologies. Questionnaires (Group Environment Questionnaire, and the Perceive Skill Questionnaire) were used to measure team member perceptions and cohesion, whilst notational analysis and experimental laboratory experiments were used to measure implicit and on the pitch decision-making.

Results:

Preliminary results suggest that 'on the pitch' decisions to pass the ball to a teammate is linked to skill perceptions of the teammate and team cohesion and visa versa. Data will be presented in terms of an ecological approach to group cohesion and decision-making in football.

Conclusion:

Team cohesion is an important indicator for team performance. Whilst it is easily and reliably measured using qualitative research methods such as questionnaires there is a need for research that validates and integrates their findings with more quantitative measurement instruments such as notational analyses and experimental laboratory based design.

P6.13

Influence of cognitive reference structures on sensorimotor adaptation behaviour.

Heiko Lex (Bielefeld University, Germany)

Matthias Weigelt (Saarland University, Germany)

Andreas Knoblauch (Honda Research Institute Europe, Germany)

Thomas Schack (Bielefeld University, Germany)

Sensorimotor adaptation (SA) processes are usually explained by various internal model properties, like a gradual adjustability (Abeele & Bock, 2001). Presumably other cognitive reference structures are mediating sensorimotor adaptation also. This study investigates the influence of cognitive representations of movement directions (RMD) onto participant's SA behavior. Moreover, the optimal integration model (van Beers, Wolpert, & Haggard, 2002) suggesting a weighting of information from different modalities (visual and proprioceptive) was considered. In two classical pointing experiments participants (N=89) were forced to adapt to a disturbance of the visual feedback in terms of a left-right reversal. Interindividual performance differences were revealed by an adaptation index (A=1.0 complete adaptation) separating poor, moderate and good adapters. An additional experiment measured participants cognitive RMD with emphasis on either visually (n=44) or visually and proprioceptive (n=45) perceived movement directions. Proximity between twelve equally distributed movement directions was determined by an individual similarity judgment in a splitting procedure. This data formed the basis for an unweighted average cluster analysis ($p=.01$, $d_{crit}=4.552$) to reveal functional relations between the directions and an invariance measure which tested for structural homogeneity ($\lambda_{crit}=.68$). Adaptation performance of good (A1=.86; A2=.90) and poor adapters (A1=.39; A2=.28) differed significantly in both pointing experiments (1,2); $t(15.525)=6.935, p<.001$, $d=2.53$ and $t(18.536)=15.532, p<.001, d=5.67$ (two-tailed). Good adapters global RMD are, in contrast to poor adapters local RMD, aligned to orthogonal axes under both conditions ($\lambda_{1good/poor}=.56$ and $\lambda_{2good/poor}=.30$). In summary, RMD form, in addition to an internal model hypothesis, a cognitive reference structure in long-term memory for the execution of goal-directed pointing movements.

P6.14

Embodied cognition in sport: Does body posture impact performance and self-efficacy?

Helen Amanda Barrett (University of Chichester, UK)

Iain Greenlees (University of Chichester, UK)

Embodied cognition theorists propose that bodily states may have intrapersonal consequences (e.g. Niedenthal, Barsalou, Winkielman, Kraut-Gruber & Ric, 2005) and research in social psychology has supported this claim (e.g. Friedman & Elliot, 2008; Brinol, Petty & Wagner, 2009; Carney, Cuddy & Yap, 2010). This study examined the contention that an individual's body posture may influence his/her self-confidence and performance in a sporting task (Friedman & Elliot, 2008). Thirty-four novice golf players were recruited to participate in 3 trials of a laboratory based golf-putting task. Following a pre-test performance, participants were randomly assigned to one of three conditions (confident posture (erect posture, arms folded) condition



in which participants were made aware of the intervention ($n=11$); confident posture condition in which participants were induced to adopt a confident posture but were not made aware of the intervention ($n=11$); control condition ($n=12$) and then completed the putting task twice more. Prior to each trial, self-efficacy was recorded using a task specific questionnaire comprising ten golf putting related levels (Feltz and Chase, 1998). Analyses of variance did not reveal the hypothesised interaction effects for either performance ($F = .396$; $p = .811$; partial eta squared = .025) or for self-efficacy ($F = .685$; $p = .749$; partial eta squared = .026). The results do not support previous research (e.g. Friedman & Elliot, 2008) and embodied views of cognition and behaviour may have limited utility in sport settings. However, additional research is required to examine this area further.

P6.15

Decision-making in attacker-defender dyadic systems in Futsal.

João Parreira (Faculty of Physical Education and Sports, ULHT, Portugal)

Luís Vilar (Faculty of Human Kinetics, UTL & Faculty of Physical Education and Sports, ULHT, Portugal)

Duarte Araújo (Faculty of Human Kinetics, UTL, Portugal)

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Ricardo Duarte (Faculty of Human Kinetics, UTL, Portugal)

Decision-making in team sports have been studied through IvsI task designs, analyzing how ball-carriers and defenders coordinate their movement displacement trajectories relative to each other and to the goal. In this study, we examined decision-making processes in seventy-one players ($M=25.31$, $SD=4.73$ years) during competitive futsal performance. We analyzed the displacement trajectories of shooting attackers and marking defenders in game sub-phases ending in a goal ($n=30$), in a goalkeeper's save ($n=30$), and in a defender's interceptions ($n=30$), at four key moments: (i) assistant ball reception (ii) assistant pass, (iii) shooter's ball reception, and (iv) the instant of shooting at goal. Mixed-model ANOVA analysis showed that when a goal was scored, the defender's angle to the goal and the attacker tended to decrease and the attacker was able to move to the same distance to the goal as the defender. This performance outcome was more probable when the attacker was closer to the defender when receiving a pass and was moving at the same velocity (or more) as the defender. Results revealed the spatiotemporal information that prospectively guided decision-making behaviours of players in attacker-defender dyads in futsal.

P6.16

The role of reinvestment and task complexity on decision-making under pressure in basketball.

Noel Kinrade (Brunel University, UK)

Robin Jackson (Brunel University, UK)

Kelly Ashford (Brunel University, UK)

Research into "choking" in sport has largely focused on the attentional processes that govern skill execution in motor tasks (Masters & Maxwell, 2008). Evidence that the association between Reinvestment and choking extends to cognitive-based tasks (Kinrade, Jackson & Ashford, 2010) led to the development of the Decision-Specific Reinvestment Scale (DSRS; Kinrade, Jackson, Ashford & Bishop, 2010). This study examines the predictive validity of the DSRS using an ecologically valid measure of decision-making. Thirty-eight skilled male basketball players (M age = 23.46 years, $SD = 4.90$) responded to video stimuli of an offensive play filmed from three viewpoints. The task required a two-choice (low-complexity, 3 v 3 situation) or four-choice (high-complexity, 5 v 5 situation) response, presented in blocks of 18 trials using an ABA design incorporating a high-pressure block (block B). Analysis of the accuracy data revealed an association between DSRS scores and skill failure under pressure in the high-complexity block ($F(1.55,55.64) = 5.10$, $P = .02$). Response time data, while less clear, revealed a general speeding of performance over successive blocks. Pressure ratings and CSAI2-R data verified that participants were both more anxious and felt under greater pressure during the high-pressure block. Regression analysis using the original RS revealed only the DSRS to significantly predict performance change under pressure with regard to response accuracy in the high-complexity condition ($\hat{\alpha} = .47$, $P = .01$). In conclusion, the results support the hypothesis that high reinvesters are more susceptible to the detrimental effects of pressure in complex decision making tasks.



P6.17

Study of exercise on cognitive function in older adults' event related potential.

Wei-Ju Lin (Taiwan Hospitality & Tourism College, Taiwan)

Tsung-Min Hung (National Taiwan Normal University, Taiwan)

Spatial working memory refers to the ability to store and interact with location-specific information of stimuli presented in the visual field over a brief period of time. Accordingly, the purpose of this study was to designed to test of spatial working memory (SWM) on older reaction times (RTs), accuracy rate (AR) and event related potential (ERP) amplitude and latency changes of cognitive function in the older compared to understand the exercise on cognitive function in older adult's event related potential. Twenty older adult's right-handed subjects with no history of psychiatric, neurological, or other severe physical disorder participated in the experiment. Participants were divided into control group (none exercise) and exercise group (activities in law) with a total of two groups of 10, individual test to SWM, and in parallel to recorded the brain ERP. The results revealed that there is no significant difference RT and AR in exercise group and control group of older adult's in the behavior data. However, ERPs data indicated that P3 latency was shorter for the control than exercise group.

P6.18

The effects of light moderate exercise on planning in the tower of London task.

Yu-Kai Chang (National Taiwan Sport University, Taiwan)

Chun-Chih Wang (National Taiwan Sport University, Taiwan)

Feng-Tzu Chen (National Taiwan Sport University, Taiwan)

Shih-Hsien Yen (National Taiwan Sport University, Taiwan)

Tzu-Hui Kuo (National Taiwan Sport University, Taiwan)

The evidence of benefits resulting from acute exercise on cognitive performance has been confirmed; however, a few further examinations are recommended in terms of exercise intensity and types of cognitive function. To date, most previous studies have focused on moderate exercise intensity which might be not fit for fragile populations or populations without physical activity habits. In addition, planning, a main type of executive function, has not been examined in the relationship. Therefore, the purpose of the present study is to investigate the effects of light moderate exercise on planning using the Tower of London Task, a main-type neuropsychological assessment for measuring planning. Eighteen adults were instructed to experience in both exercise and control conditions with counterbalanced order. The TOL Task was conducted before and immediately after each treatment. The exercise group performed 30 minutes of exercise on a stationary cycle at light exercise intensity (40% Heart Rate Maximal). A two-way repeated ANOVA was computed for conditions (exercise and control conditions) and times (pre- and post- conditions). Results indicated that the exercise group achieved significant improvements in the total moves score and the total correct score but not in the violation and speed scores as compared to the control group. These findings indicate that an acute bout of light intensity aerobic exercise has facilitative but disproportionately sensitive effects on the executive functions of planning.

P6.19

All for one and one for all: Enjoyment facilitates performance during team competitions.

Andrew Cooke (University of Birmingham, UK)

Maria Kavussanu (University of Birmingham, UK)

Christopher Ring (University of Birmingham, UK)

Objectives:

Recent research demonstrated that motor performance was better during team competition than during individual competition, due to increased enjoyment experienced when performing in a team. The aim of this experiment was to further evaluate enjoyment as a mediator of the facilitative effects of team competition. We also measured anxiety and effort to test processing efficiency theory as an alternative account of the competition-performance relationship.



Design:

A within-subject design was employed. Sixty-four participants completed a handgrip endurance task in time trial and one-on-one competitions (i.e., winner takes all) as well as in 2 vs. 2 and 4 vs. 4 team competitions (i.e., all for one and one for all), with the order counterbalanced across participants.

Methods:

Participants maintained an isometric contraction by squeezing a handgrip dynamometer at a force equivalent to 40% of their maximum strength for as long as possible. Self-report and psychophysiological measures of enjoyment, anxiety and effort were obtained during each competition. Endurance time served as the measure of performance.

Results:

Endurance time was longer while self-report and physiological measures (e.g., heart rate, heart rate variability) indicated that enjoyment, anxiety and effort were greater during team competition. Mediation analyses revealed that enjoyment and effort mediated the facilitative effects of team competition on endurance performance.

Conclusions:

Our results support both an enjoyment model and processing efficiency theory as mechanisms to explain the facilitative effects of team competition on performance. Future research to further examine the role of positive emotions during competitive sport appears warranted.

P6.20

Self-efficacy and social support of academy cricketers.

Lynn Slogrove (Nelson Mandela Metropolitan University, RSA)

Jenna Cowan (Nelson Mandela Metropolitan University, RSA)

This research aimed to provide an initial insight into the role that South African provincial cricket academies play in talent development of cricketers by reflecting on possible changes in self-efficacy and perceived social support over an academy season, as well as indicating the relationship between self-efficacy and social support of academy cricketers. A purposive sample of 65 male, university-age (18-25 years) provincial academy cricketers completed a self efficacy measure and a social support measure, designed specifically for the purposes of this study, at the culmination of their academy programme. A pre-experimental posttest-pretest design was used. The results indicated significant positive changes in self-efficacy, esteem social support, informational social support and tangible social support over a cricket academy season. A significant correlation between self-efficacy and informational social support was also found. Although this research provided evidence of increases in self efficacy and perceived social support of South African provincial academy cricketers over an academy season, psychometrically tested scales need to be developed to measure these constructs and larger, randomized sample sizes would make the results more generalisable.

P6.21

The relationship between organizational identification with expert's organizational citizenship behavior in national Olympic & Paralympic Academy Of I. R. Iran.

Mehr Ali Hemmati Nezhad (The University of Guilan, Iran)

Organizational citizenship behaviors as employee spontaneous behaviors have strong effect on individual and organizational performance. These behaviors support the organizational goals by contributing to its social and psychological environment. In the other hand, with the consideration of social identification theory, organizational identification has effect on organizational citizenship behavior. It is expected that the incidence of organizational citizenship behaviors will be high among employees who identify with the organization and share its values and goals. Organizational identification aligns individuals' interests and behaviors with interests and behaviors that benefit the organization.

The aim of this study was to investigate the relationship between organizational identification with expert's organizational citizenship behavior of national Olympic and Paralympics academy (NOPA) in I.R.Iran. The present research method was descriptive as a correlation type. The research statistical community included all expert of NOPA (n=60). The Statistical sample was considered equal with statistical population, but in final 56



questionnaire (%93) were gathered. The used instruments were two questionnaires including: organizational identification (Mael & Ashforth, 1992) and organizational citizenship behavior (Podsakoff et al., 1990). Their validity and reliability were estimated through specialist idea and cronbach alpha coefficient (respectively $\alpha = 0/825, 0/936$). In addition, data analysis was down using descriptive statistical methods and inferential statistic (k-s test, Pearson correlation coefficient, Spearman correlation coefficient, chi-square, Phi and Cramer's, linear regression, and Friedman test). The results showed that organizational identification mean was higher than organizational citizenship behavior. Between five dimension of organizational Citizenship Behavior (altruism, courtesy, sportsmanship, conscientiousness, civic virtue), courtesy dimension had highest average and preference and sportsmanship dimension had lowest average and preference. There is a significant and positive relationship between organizational identification and organizational citizenship behavior ($P < 0/05$) and its dimensions except sportsmanship ($P < 0/01$). As well, organizational identification was not significant predictors for organizational citizenship behavior and its dimensions ($P < 0/01$). There was not a significant relationship between organizational citizenship behavior and demographic factors (like age, gender, marriage status, education) except recruitment type (there was a significant and positive relationship) and job record (there was a significant and negative relationship) ($P < 0/05$). Also There was not a significant relationship between demographic factors and organizational identification ($P < 0/05$). The results of this research emphasize on increasing organizational identification in order to improve organizational citizenship behaviors.

P6.22

Psychological support in youth sport.

Marina Teryaeva (Ural Federal University, Russian Federation)

The development of children's and youth sport is the most important factor for forming of personality of young sportsmen but it also makes a foundation for developing the sport of highest achievements.

At the same time as the praxis of children's and youth sport indicates the efforts of coaches are directed only at the achievement of sport result.

Under the influence of this guideline the young sportsman's education is coming out of his coach's view that has a negative influence on achievement of sports results.

This system appears to include the improvement of personal qualities, forming of sports motivation, psychological stability, self-control ability that will facilitate sports achievements.

The most important personal qualities for achieving mentioned objectives are self-determination, purposefulness and responsibility and development of such psycho-physiological characteristics as attention focusing, psychical self-control, psychological stability.

To achieve mentioned objectives we introduce a technology for psychological support of young sportsmen.

This technology includes several stages.

The aim of the first stage is forming of positive motivation for sports activities.

The second stage is devoted to individualizing.

The third stage is the stage of perfection.

As the researches on using this technology for young sportsmen showed, self-control rates increased from 34 to 52 %, responsibility rates from 20 to 48%, aspiration level from 2,57 to 2,79, attention focusing from 9 to 5,2.

The acquired results allow us to consider that this technology gives an opportunity for a trainer working with young sportsmen.

P6.23

The effect of social support visibility on performance in two aiming tasks.

Tjerk Moll (University of Exeter, UK)

Tim Rees (University of Exeter, UK)

Paul Freeman (University of Exeter, UK)

Research suggests that social support is crucial for athletes' performance and psychological well-being (e.g. Kristiansen & Roberts, 2010). The effects of concrete supportive acts have been mixed (Uchino, 2009). What individuals say and do to help another might facilitate coping but may also undermine a recipient's sense of efficacy and autonomy. 'Invisible support', support provided but unnoticed as such, has been shown to override these negative effects leading to reduced emotional distress (e.g. Bolger & Amarel, 2007). In two



separate experiments, we examined the effect of support visibility on performance. Novice golfers (n=105) performed ten putts following a scripted support manipulation reflecting either visible-informational, invisible-informational, visible-esteem, invisible-esteem, or no support. In the second experiment, experienced football players (n=85) performed ten kicks towards a target after receiving one of the five support manipulations. In both experiments, performance was assessed with the average distance away from the target. ANOVA's revealed significant differences between conditions. In both experiments, participants who received invisible-informational support performed best. Following visible-esteem support, novice golfers performed significantly better than those receiving invisible-esteem or no support but experienced football players performed significantly worse than those receiving invisible-informational and visible-informational support. The findings indicate that invisible support circumvents the negative effects associated with social support but this depends on the type of support provided.

P6.24

Relationships in the sports team as a victory factor.

V. N. Nepopalov (Russian State University of Physical Culture, Russian Federation)

The present stage of development and formation of teams, demands from experts of sphere of physical training and sports of the increasing attention to questions of interpersonal relations in structures "sportsman-sportsman" and "sportsman-trainer". Relations, folding within the sports teams, in particular, relationship management and subordination are a powerful factor in shaping how cohesive teams and individual athletes. The question on what signs characterize the developed sports collective, without exaggeration it is possible to carry to the category prime in sports psychology. In the research we recognized that on system effectiveness of preparation and a victory at competitions, besides other factors, influences the level of interpersonal relationships in the sports team. On the basis of the analitical review was conducted the experimental research in various game teams which illustrate the most important phenomena arising in sports teams. As a result of the conducted research following indicators - efficiency team (success/failure), the degree of compliance with regulations and social expectations, ability of group to provide everyone an opportunity to complete the harmonious development and personal relationships. These criteria are disclosed in specifically-empirical indices depending on specificity of sport. Empirical indexes have been grouped in estimated blocks - productivity, professionally and personal growth and a socially-psychological climate of a team. Thus, assessment of head coach as organically linked to objective data on sports team and has complex character. At the same time, the factors complicating rallying in teams, for example difference in physical, technical and tactical readiness or differences in the psychological equipments have been allocated. By coach often face facts implicit or explicit refusal athlete maximum voltage. The most critical situation in the case of the athlete's unwillingness to continue work under the guidance of a coach and as a result, a negative perception of all his statement that changes the relations in the team until the conflict behavior of open forms. On the basis of the conducted research has developed practical references for reducing conflict and improve interpersonal relationships in teams of game sports.

P6.25

Prediction of sport motivation: The role of implicit theories of ability.

Chiung-Huang Li (Ming Chuan University, Taiwan)

Li-Ching Chou (Ming Chuan University, Taiwan)

Cheng-Tsung Ou (Ming Chuan University, Taiwan)

Jun-Qin Liao (Ming Chuan University, Taiwan)

Yu-Zhi Luo (Ming Chuan University, Taiwan)

The purpose of this study was to examine main and interactive effects of implicit theories of ability and perceived competence on sport motivation. Participants played by 324 high school athletes. All completed Implicit Theories of Sport Ability Scale, Sport Motivational Scale, and Perceived Competence Questionnaire. Using separated multiple hierarchical regression analyses, incremental beliefs of sport ability and perceived competence were shown to be positive predictors of high self-determined motivational variables and negative predictors of low self-determined motivational variables. In contrast, entity beliefs were found to positively predict extrinsic motivation and amotivation. These results suggest incremental and entity beliefs about sport ability play as adaptive and less adaptive roles in nurturing sport motivation, respectively. However, relations between implicit theories of sport ability and sport motivation may not be altered by perceived competence.



P6.26

An examination of the motivational orientation of university students with regards to exercise stage of change and sex from the self-determination perspective.

Gozde Ersoz (Suleyman Demirel University, Turkey)

Hülya Asçı (Baskent University, Turkey)

Ersin Altıparmak (Ege University, Turkey)

The aim of this study is to examine the motivational orientation of university students with respect to exercise stage of change and sex.

Methods:

698 female and 492 male university students aged between 17-30 years old voluntarily participated in this study. The sample of university students were selected by using conventional sampling from students who are graduate or post-graduate students and do exercise regularly in either public or private sports centers in their leisure times. The Behavioural Regulations in Exercise Questionnaire-2 (BREQ-2) and the Exercise Stages of Change Questionnaire (ESOCQ) were administered to the participants. The differences in motivational orientation with regard to exercise stage of change and sex were tested by using multivariate analysis of variance (MANOVA).

Findings:

The results of MANOVA indicates that there is no sex difference in motivational orientation (Wilks' Lambda = 0.97; $F(4, 1185) = 1.13$; $p > 0.05$). On the other hand, the results of MANOVA revealed significant difference motivational orientation with respect to exercise stages of change (Wilks' Lambda = 0.90; $F(16, 3611) = 8.07$; $p < 0.05$). Follow-up univariate analysis indicated significant differences in intrinsic regulations ($F(4, 1189) = 24.52$; $p < 0.01$), introjected regulations ($F(4, 1189) = 21.30$; $p < 0.01$) and amotivation ($F(4, 1189) = 4.34$; $p < 0.05$) subscales of exercise motivation, but there is no significant difference in terms of external regulation subscales ($p > 0.05$).

Conclusion:

It can be concluded that motivational orientation in exercise do not vary among males and females. The intrinsic and introjected regulations scores of the participants who are at the precontemplation stage of exercise are lower than the ones who are at another stage of change for exercise, but their amotivation levels were higher. It was observed that as one progresses at the stages of change for exercise, the averages of intrinsic and introjected regulations increase and the level of amotivation decreases.

P6.27

Exercise motivation and improvement of web based health promotion services.

Karin Josefsson (Halmstad University, Sweden)

Andreas Ivarsson (Halmstad University, Sweden)

The main purpose of the study was to examine exercise behavior and motivation in customers of a web based exercise service institution. The study also aimed to derive implications for optimizing the web services regarding exercise motivation enhancement. The respondents ($n=1262$) were active members of www.tappa.se and data was collected through a web based survey containing a number of exercise oriented questionnaires; e.g. The Basic Psychological Needs in Exercise Scale, Barriers Self-Efficacy Scale, Physical Activity Stages of Change Questionnaire 2:1, The Behavioral Regulation in Exercise Questionnaire-2, etc. The results revealed respondents to have a generally self-determined motivation profile and to utilize goals focused on health management and image. Conclusions involve recommendations to apply a theory foundation in the web service, preferably using self-determination, self-efficacy and stages of change references. Challenges in order to develop this kind of web service, as well as exercise promotion in general, are to reach Pre-contemplators, whom could be hard to reach. Furthermore, a refocus of the studied web service from weight control to health related aspects could have positive impact on motivation and could also attract more men. Regarding workplace health promotion, it is essential to invest in motivational and engagement supporting methods. Finally, it is generally recommended to use qualified exercise psychology competence in exercise promotion.



P6.28

Psychological factors underlying motivation and sports participation: A multidimensional analysis of top level competitive female team sport athletes in Ireland.

Katherine Lydon (National University of Ireland, Ireland)
Gerard Flaherty (National University of Ireland, Ireland)
Paul Hession (National University of Ireland, Ireland)
Micheál Newell (National University of Ireland, Ireland)
Brendan Dineen (National University of Ireland, Ireland)
Giles Warrington (National University of Ireland, Ireland)

Purpose:

A comprehensive understanding of the critical factors influencing an athlete's motivation is important for cultivating a positive training and competitive environment through which the true potential of the athlete can be realised. The aim of this study was to conduct a multidimensional investigation into top level female team athletes in Ireland within the context of sport motivation. **Materials & Methods:** Participants were 507 competitive female players, aged between 14 and 41 (mean±SD = 22.9±4.5), representing the following sports: Camogie (n=116), Gaelic Football (n=268), Rugby Union (n=65) and Soccer (n=58). The athletes' motives for sport participation were assessed using the validated 28-item Sport Motivation Scale (SMS). This instrument measures three sub-scales of both intrinsic motivation (IM) and extrinsic motivation (EM) and one sub-scale of amotivation. **Results:** The IM sub-scale 'experiencing stimulation' (mean=19.63) was the principle source of motivation amongst athletes. Furthermore, the sub-scale 'IM to know and understand' was significantly higher amongst goalkeepers ($p<0.05$); and athletes with both male and female club coaches ($p<0.05$). Medal winners had significantly lower levels of both IM ($p<0.001$) and EM ($p<0.05$); IM was confirmed as being negatively associated with winning a medal by multiple logistic regression (OR=0.97; 95%CI 0.94-0.99). Rugby Union players, in comparison with other athletes, displayed higher levels of IM ($p<0.01$). **Conclusions:** Top level female team athletes competing in field sports throughout Ireland are characterised and can be classified by a dynamic set of IM and EM factors that are influenced primarily by their achievements, sport, playing position and their coach's gender.

P6.29

Motivation for sport in young Italian competitive and recreational gymnasts.

Stefano Amici (University of Rome-Foro Italico, Italy)
Laura Capranica (University of Rome-Foro Italico, Italy)

Introduction:

The study aimed to investigate the motivation to sport participation in young Italian gymnasts in relation to gender age and level sport participation.

Methods:

To verify differences ($p<0.05$) in Intrinsic Motivation (IM to Know, IM to Stimulation, IM to Accomplishment), Extrinsic Motivation (EM Identified Regulation, EM Introjected Regulation, EM External Regulation) and Amotivation, 356 gymnasts, divided into two age (9-12 vs 13-17 yrs) and participation level (competitive vs recreational) subgroups, were administered the Sport Motivation Scale questionnaire (Pelletier et al. 1995).

Results:

No effect emerged for gender. Differences ($p=.00$) emerged for age, with 9-12 yrs subgroup showing highest values for IM to Know, IM to Stimulation, EM Identified-Regulation, and lowest values for EM Introjected Regulation. A main effect ($p=.00$) emerged for sport participation, with recreational gymnasts showing highest values for EM Identified Regulation, EM Introjected Regulation, EM External Regulation, and lowest values for Amotivation.

Conclusion:

These findings confirm a decline in intrinsic motivation with increasing age, which might lead to an increased dropout risk (Linder et al., 1991). Recreational gymnasts seem to be motivated by external incentives (Chantal et al., 1996), which could be due to an increase in anxiety (Ryan & Deci, 2000). Although competitive gymnasts show less need for external approval, their higher levels of amotivation with respect to recreational gymnasts



might indicate a lack of awareness for practicing gymnastics.

P6.30

Examining moderated effects of intention stability on the relation between exercise intention, plans and behavior.

Yao-Chung Huang (National Taipei University of Technology, Taiwan)

Likang Chi (National Taiwan Normal University, Taiwan)

Researchers of intention and behavior have often suggested that the effect of intention on behavior wasn't so directly and some factors might mediate or moderate the relationship between intention and behavior. Intention stability and plans were often to be remarked recently. However, more complex relation was not examined. Therefore, the purpose of this study was to examine the moderated effects of intention stability on the mediated effect of plans including action and coping plans on the relationship between intention and behavior. The participants were 309 junior high school teachers. Self-reported inventories were used as primary research method. After completing exercise intention scale, action and coping plan scales, exercise behavior and intention were completed two weeks later. The results of this study indicated that the mediated effect of action plan was significant at mean and at high levels (+1 SD) of intention stability, but not when intention stability was low (-1 SD). The strength of the conditional indirect effect increased along with levels of intention stability ($\hat{a} = .18$ at M, and $\hat{a} = 0.22$ at +1 SD). However, the mediated effect of coping plan was not significant neither at low level of intention stability nor at mean and at high levels of intention stability. To conclude, this study provided a better understanding of how to transfer exercisers' intention to real behavior.

P6.31

Among "Will and Do": A study about the barriers and benefits of physical activity.

Ana Rita Veloso Morais (School of Psychology, University of Minho, Portugal)

A. Rui Gomes (University of Minho, Portugal)

Predictors of adoption and maintenance of physical activity have been raising the attention of Sports Psychology (Armitage, 2005). One interesting topic in this domain relates to the costs and benefits of exercise for people who just enrolled in an exercise program versus those who have been doing exercise routinely for a long period of time. This study analyses the barriers and benefits of physical activity in 9 participants divided in three subsets: those exercising for one month ($n=3$); six months ($n=3$), and more than one year ($n=3$). We used an interview guide to assess the barriers and benefits of physical activity (Gomes, 2010). Derived information was processed using the NVIVO8 software and data treatment was based on a deductive analysis. Before starting exercise, participants referred three barriers to physical activity: lack of time, registration fee, and location of the gym.

Barriers to exercise of the one-month participants were associated with lack of time and the concurrence of other "priority activities". Benefits were based on physical changes and a general positive sensation of wellbeing.

The six-month participants focused on physical results (e.g. weight loss, toned muscles) and had more significant strategies to deal with the barriers. Experienced practitioners (over one year) didn't point out specific barriers to exercise as it is a part of their daily routine.

This study suggests that the perception of costs and benefits of physical activity changes throughout its duration which reflects the dynamics of behavioural modification (Prochaska & Clementi, 1984).

P6.33

The relationship between psychological skills and psychological well-being.

David J. Edwards (University of Zululand, RSA)

B. J. M. Steyn (University of Pretoria, RSA)

J. T. Beale (University of East London, UK)

R. M. Buscombe (University of East London, UK)

Minimal research has been undertaken into both conceptual and empirical relationships between psychological skills and psychological well-being. Sport and exercise psychology experts have extensive knowledge in their area of expertise and are able to provide in-depth understanding and explication of the



relationship between concepts. It is for these reasons that five international sport and exercise psychologists were asked to comment on the relationship between psychological skills and psychological well-being. All experts were known to the first researcher, were registered with their national professional body, and had extensive qualifications, expertise, research and practical experience in the area of sport and exercise psychology. Their qualitative case study data was coded and analyzed using deductive content analysis. In terms of high order theme results experts firstly suggested that the relationship between psychological skills and psychological well-being is dependent on how the concepts are defined and secondly in what context they are employed. Thirdly experts agreed that psychological skills are part of general life skills, trained for specific settings such as sport and exercise, usually associated more with performance outcomes than well-being. Fourthly, they recognized that reciprocal correlational and causative relationships exist between these two concepts. Finally, it was identified that psychological skills can improve psychological well-being, with psychological well-being required for psychological skills to be effective. Further research with recognized experts is currently being undertaken in order to investigate quantitative and qualitative components of this relationship in greater depth.

P6.34

Emotional intelligence, body image dissatisfaction in relation to eating behaviors in judo athletes and non-athletes.

Edith Filaire (UFRSTAPS Orleans CTI Inserm U658, France)

The purpose of the current study was to use Bar-On's emotional intelligence model to examine the abnormal eating attitudes in judoists and the possible relationships among eating attitudes, emotional intelligence, and body dissatisfaction. A total of 20 national judoists and 25 control participants (French male university students) were enrolled in the study.

Subjects completed the following questionnaires: The Eating Attitudes Test (EAT-26), The Body Image Assessment Scale–Body Dimensions and the BarOn Emotional Intelligence Questionnaire (BarOn EQ-I).

The EAT-26 revealed that 30 % of the athletes and 20% of the controls presented disordered eating behaviors (DE). There were significant differences between current and ideal body size among controls and judoists with DE ($p = 0.01$). No differences were noted between controls DE and judoists DE in IE components. However, men in the DE attitudes groups had lower levels of Emotional Intelligence (IE) in comparison to the groups without DE, particularly in factors such as intrapersonal ($p = 0.01$), adaptability ($p = 0.05$), stress tolerance ($p = 0.04$) and general mood ($p = 0.04$). Our results also showed that body dissatisfaction and Stress Management accounted for 55.9% and 27%, respectively of the variance in the EAT score among men with DE. A third of the athletes and a fifth of the students enrolled in the present study presented DE and have significant differences in many IE Components. Prevention programmes must be organized within clubs and also in the University and strategies should be developed included EI interventions.

P6.35

Prevention of eating disorders in female elite athletes.

Friederike Rasche (University of Vienna, Institute of Sport Science, Austria)

According to Dosit (2008), athletes believe that losing weight is essential to reach peak performance and that it is necessary for aesthetic beauty ideals valued in certain sports. In order to gain a competitive advantage, athletes revert to rapid and pathogenic weight-loss methods, which are similar to eating disorders behaviours. Consequences of disordered eating may have detrimental effects on athletes' health and performance and should not be neglected. Programs to prevent disordered eating especially in athletes should be established (Thompson & Sherman, 2010). Therefore a prevention program, called PER-formance, was conducted and evaluated in Austria. This program focuses on three dimensions that are assumed to have a protective effect on eating disorders in sport: (1) Information about eating disorders as well as puberty and menstruation and their impact on performance and well-being, (2) a realistic and positive body-image and (3) handling negative comments on body shape or weight. The program which consists of six units à 120 minutes addresses young female elite athletes aged 12 – 16. The evaluation of the program followed an intervention-control-group design where data were collected three times (pre, post and three month follow-up). Decreasing effects could be found in both groups on the global eating disorders scale (Eating-Disorder-Examination-Questionnaire; EDE_Q) and the subscales "weight concern scale" and "shape concern scale" as well as on the negative coping behaviour scale (Stressverarbeitungsfragebogen). As both groups did not show



conspicuous data at the starting point, these effects are confident. Knowledge increased in both, but significantly more in the intervention group.

P6.36

Parenting, parental pressure and psychological health of the adolescent high athletes.

Julie Salla (University of Bordeaux, France)

The high intensive practice in sport is not without psychological risk for the child and the adolescent (stress, burn out, eating disorders, doping...) Anyway, unless there are some evidences of psychological difficulties which are associated with high intensive practice, the knowledge is still limited, notably concerning the effects of parental influence.

Objectives:

1) Examine the effects of parenting practice and perceived parental pressure on the psychical health of the adolescents.

2) Explore the effects of parenting practice and parental's perfectionism on the adolescent's performance.

Methodology: 90 athletics adolescents (high level tennis players) between 10 and 18 years old, their parents and their coaches were recruited. Those adolescents are high level tennis players. There are the best regional and national athletes from France. All of them are integrated in an athletic structure. They responded to the following tools: a health questionnaire (eating disorders, use of medicine, depression and stress) and some scales which evaluated the perceived parenting (QERPE) and perceived parental pressure. The coaches responded to the scale of personal standards too and the parents too.

Results and discussion:

The results show some vulnerability factors linked to parenting which place the "sub-elite" adolescent in a risky sportive practice for his health. Otherwise, they also put in evidence a negative parenting regarding the athletics performance. Some recommendations in terms of overinvestment, psychological pressure should be proposed to the parents and coaches to ensure a healthy and performing sportive practice.

P6.37

Sportive Practice and Subjective Well-Being of Immigrants.

Marília Moraes (Oporto University, Portugal)

Nuno Corte-Real (Oporto University, Portugal)

Cláudia Dias (Oporto University, Portugal)

António Manuel Fonseca (Oporto University, Portugal).

Studies have shown a positive association between sportive practice and subjective well-being. In general, people who practice any sport regularly show levels of subjective well-being higher compared to those who do not (Berger et al., 2002; Ku et al., 2007).

The subjective well-being lies in how people evaluate their lives positively or negatively. These assessments can be cognitive (eg. satisfaction with life) or affective (emotions and moods positive and negative) (Diener, 2007; Diener & Lucas, 2000).

This study is a review literature on sportive practice and its relationship with subjective well-being of immigrants, who in most cases, are exposed to situations that may affect their subjective well-being as uprooting, discrimination and xenophobia, deprivations, difficulties access to support services and employment (Carballo & Nerukar, 2001; Carta et al., 2005).

We sought to make a survey of information available in the literature about this topic to a more global level and particularly in Portugal, which since the 80s has become a country of immigration. Books, papers, specialized and institutional sites were used to identify about 50 publications that met the inclusion criteria.

The literature review revealed: immigrants tend to practice less sport and have lower levels of subjective well-being compared to the native population; the sportive practice correlates positively with subjective



well-being also in immigrants; in Portugal were not found specific studies on the sportive practice of immigrants, though the numbers of immigrants in the country are increasing, which justifies the studies in this area.

P6.38

The role of interpersonal relationships in athletes' eating disordered psychopathology.

Vaithehy Shanmugam (Loughborough University, UK)

Sophia Jowett (Loughborough University, UK)

Objective:

Athletes with eating disorders not only risk compromising their performance, but also their health and general wellbeing, thus, risk factors that are likely to contribute to the onset of eating disorders present a valuable avenue for research. Difficulties in interpersonal relationships have been linked to the development of the disorder from the earliest conceptualization of the disorder. Thus the aim of the present study was to examine the role of the quality of significant interpersonal relationships in the onset of eating disordered psychopathology amongst athletes.

Method:

122 athletes, completed a battery of questionnaires related to eating disordered psychopathology, quality of relationship with their parents, coaches and teammates at wave 1 and 6 months later at wave 2.

Results:

Structural equation modeling analyses revealed that poor quality coach-athlete and teammate-athlete relationships positively predicted disordered eating attitudes in athletes. Specifically increased conflict experienced with coaches and decreased support received from teammates predicted elevated eating psychopathology. Results further revealed that poor quality relationships preceded the onset of unhealthy eating attitudes, as opposed to being a consequent of the disorder.

Conclusion:

The present findings provide evidence to suggest that relationship dynamics with coaches and teammate predict disordered eating in athletes. Thus, the sporting community needs to be aware of the important role interpersonal relationship (especially coach-athlete and athlete-athlete) play on athletes' eating psychopathology.

P6.39

Eating disorders and gender role orientation in cardio-based fitness classes.

Vanessa Lentillon-Kaestner (Institute of Sport Sciences of the University of Lausanne (ISSUL) / University of Teacher Education (HEP-VD), Department of Research and Teaching in Sport and Physical Education (UER-EPS), Lausanne, Switzerland)

Fitness classes are considered high-risk sports (Dosil, 2004) in the development of eating disorders besides aesthetic sports, weight division sports, endurance sports and low weight performance sports. But studies on eating disorders in fitness activities are rare. We focused on cardio-based group classes, such as spinning, aerobics and step, which urge participants (mostly female) to become more concerned about their figure and weight, and therefore may increase the risks of disorders (Prichard & Tiggemann, 2008). The purpose of this study was to evaluate the prevalence of eating disorders in cardio-based fitness classes and to understand the relationship between the adherence to contemporary gender roles and eating disorders in this sample. Despite vast research efforts linking gender role orientation and eating pathology, consistent findings have not emerged as to how gender role orientation and eating disorders are related (Lancelot & Kaslow, 1994).

A self-report questionnaire was used incorporating a range of pre-existing standardized measures, such as the Eating Attitude Test (EAT-26), and two of the Personal Attributes Questionnaire (PAQ)'s three scales: the masculinity and femininity scales. Participants were 264 women (M=22.97 years-old, SD=2.41) who attended cardio-based fitness classes in the university sports centre. Our results indicated that 8% of females had eating disorders (EAT score >20) and females with low levels of masculinity score showed more often eating disorder behaviours. These support the discrepancy theory of Steiner-Adair (1986): eating disorders result from a self-perception of a lack of traditionally masculine characteristics, rather than from too many feminine characteristics.



P6.40

The decision of motherhood during the course of sport career: elements of similarity and peculiarity according to sports.

Aurelie Ledon (INSEP, France)

Abstract:

Motherhood during a sport career is a more and more common phenomenon in the elite sport context. The present study has for objectives : (a) identify the modalities of choices operated by these athletes between desire of motherhood and research for sports fulfillment, (b) identify the elements of similarity and peculiarity during their motherhood according to the various practised, (c) suggest forms of accompaniment at the time of the decision-making process having a child, during and later. Four elite female athletes from twenty nine to forty three years old at the time of the interview who have had a child during the course of their career voluntarily participated in an individual in-depth interview. A guide was developed and used during the interview to help each participant to recall and relate the course of their life and notably the period when they had their children.

The qualitative analysis of each case led to distinguish two profiles of elite athlete's performance bringing to light elements of similarity and peculiarity: (a) One group of athletes perceived pregnancy as a potential constraint which could prevent them from regaining their ability to perform (e.g., weight gain, change in body image, support or not support of sports organizations). These athletes practised a sport with weight categories. The other group perceived pregnancy as an opportunity to take stock of their sports career and to set new targets (e.g., gold medal in Olympic Games). They considered coming back to their best performance standard as a personal challenge and these athletes practised at the same time sport with weight categories and other sports.

Moreover, results from the present study showed that there was a lack of accompaniment in the decision-making process to have a child at the women elite athletes (e.g., psychological follow-up), a lack of infrastructures adapted for the guarding of children (e.g., day-nurseries), and a lack of support sometimes sports authorities (e.g., support of the coaches).

P6.41

Termination of sporting careers among South African sports women.

Ben Steyn (University of Pretoria, RSA)

The aim of this study was to determine the main reasons why sports women terminate their sporting careers prior to reaching their full potential. The second aim was to determine the most important factors that have a significant influence on the participation of women in sport. A purposeful sample of 38 women between the ages of 17 and 25 years that competed on an intense level (first team at school-; provincial-; national- or international level) and terminated their sporting careers either in their matric year or with in the years during their tertiary education, were selected for this study. The main inclusion criteria for this group of sports women were that they all felt that they did not reach their full potential. A qualitative research approach was followed, as well as a questionnaire that was developed for this purpose that consisted of open ended and Likert scale based questions. Results indicated a multitude of reasons why the sports women terminated their sporting careers prematurely. The most frequent reasons for ending their sporting careers were a decrease in motivation and interest followed by coach problems, academic pressure, injuries, politics in sport, lack of social life, lack of facilities, work pressure, transport problems and starting a new career. The main factors that significantly influenced their sporting lives were social cultural factors such as gender stereotyping, the media, the education system, parental pressure and peers.

P6.42

Professional athletes: for a harmonious transition to the end of a sports career.

Esmeralda Gouveia (University of Madeira, Portugal)

Contemporary Sports Psychology faces a moment of great expansion in its field of knowledge. Simultaneously, occur new research possibilities and areas of interest, to date not much explored. In this context, the topic "end of sports career" has become an international trend, in terms of research, referring to a crucial and inevitable moment in an athlete's life, requiring special attention.



Orlick (1990) says that “(...) a particular type of transition that has the potential of interesting professionals in the field of psychology for research is the end of a professional career, considering this an inevitable phase” (p.138). In that sense, studying the end of a sports career, its causes and consequences, makes this topic relevant, allowing us to evaluate the impact of that moment which requires great adjustments in the athletes’ lifestyles.

The end of a sports career implies change, along with simultaneous transformations in the athletes’ psychological and social levels and the need for resources to deal with the moment. This requires specific demands and adjustments in the occupational, financial, social and psychological spheres of the athlete’s life, and most importantly, a personal effort of adjustment to the new phase. Some transitions may be positive when prior conditions are met that allow the adjustment.

But according to Stambulova (1997), these transitions aren’t always successful and may be lived through negatively, when there is lack of adjustment capacity, creating psychological symptoms such as sadness, anxiety and depression.

P6.43

Sport Career and Athletes Well-being: psychological Problems.

Galina Gorskaya (Kuban State University of Physical Education, Russian Federation)

Sport career formation falls on the period of intensive personal and intellectual development and may influence normative ontogenetic characteristics of this process. The influence of the young athletes involvement in sport activity on their personal development was researched by means of ten years long scientific project.

520 male and female athletes and 480 non-athletes that took part in the project were subdivided into three age groups: 12-13, 14-15, 20-24 years old. Indicators of motivation, aspiration level, self-esteem, conscious self-regulation, locus of control, self-concept, personal maturity and social adaptation characteristics were registered.

Positive and negative aspects of sport career influence on athletes personal development were find out. Athletes have more realistic self-esteem then their non-athlete peers. They demonstrate less fear of failure and have higher indicators of internal locus of control, readiness to accept other people, higher index of social adaptation, responsibility then non-athletes. At the same time athletes self-concept is more fragmentary then that of non-athletes. Athletes are more interested in psychological support of their families then non-athletes. Involvement in sport activity complicates normative process of development of interrelation with significant others. Young athletes demonstrate less interest to interrelation with peers and prefer parents and relatives as communication partners then non-athletes. Research results demonstrate importance of psychological support young athletes professional and personal development. Theoretical basis of effects mentioned above is discussed.

P6.44

Analysis of the available resources to face labor insertion after the sport retirement in a professional club´s footballers.

Macarena Lorenzo Fernández (University of Seville, Spain)

The sport retirement is often a crisis stage that requires adaptation in occupational, financial, social and psychological levels (Cury, Ferreira and Leite de Barros, 2008). According to recent contributions that indicates the importance of sports withdrawal and the subsequent employability, this paper aims to analyze descriptively the available resources to address social and professional integration after the retirement of the football players from a professional football club. A questionnaire for the Diagnosis of Employability in Elite Athletes was designed. Results show that, to cope adaptively to withdraw, footballers needs to establish future´s consciousness, planning the retirement, the savings and the academic development. On the other hand, we must strengthen the human capital accumulated, and perceived social support skills, strategies and skills acquired after sports.



P6.45

Monitoring perceived load and recovery in elite coaches: a psychosociophysiological balance act.

Göran Kenttä (The Swedish School of Sport and Health Sciences, Sweden)

Preventing burnout and promoting wellbeing is critical in the high demanding context of elite level coaches. Burnout is a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do "people work" of some kind (Maslach & Jackson, 1986). In contrast, subjective wellbeing is a global perception that builds upon a combination of life satisfaction and positive affect (Ryff & Keyes, 1995). Success in preventing burnout and promoting wellbeing will determine crucial aspects of coaching ability. More specifically, poor decision-making, irritability or lack of attention from a coach as a consequence of exhaustion is dissatisfying. The purpose of this study was to enhance self-monitoring of perceived load and recovery among track and field coaches (N=16). Firstly, coaches were given the task to think about what makes them tired in daily life besides, potential physical exercise. From this write down the top-three reasons that make you tired on a daily basis. Secondly, coaches were asked: what do you do to recover besides, sleep and fill-up energy with food and fluid. The following step was to write down the top-three recovery strategies that work. This reflection exercise was performed three times over a period of six months. As a result all coaches reported an enhanced ability to monitor load and recovery based upon more actively engaging in strategies to enhance mental recovery after strenuous work or other stressful activities. In addition, coaches reported more frequently paying attention to body signals related to stress and recovery.

P6.46

Evaluation and improvement of the coach-athlete relationship in the Andalusian Tennis Federation.

M. Rocío Bohórquez Gómez-Millán (Andalusian Federation of Tennis, Spain)

The coach-athlete relationship is a situation in which coach and athlete's cognitions, feelings and behaviors are mutually and causally interrelated (Jowett & Cockerill, 2002; Jowett, Paul & Pensgaard, 2005). According to this definition, relationships are dynamic and may be improved allowing athlete's excellence and personal growth for each member of it.

The high performance program of the Andalusian Tennis Federation consists of sixteen tennis players and four coaches. All coach-athlete dyads were assessed with the Coach-Athlete Relationship Questionnaire (CART-Q) from Jowett (2005) in a Spanish adaptation by a test-retest methodology.

The results show that the intervention was successful in improving the closeness, commitment and complementarity of the most of the coach-athlete dyad.

P6.47

The impact of a coach's belief in a cause of events and the perception of the basic psychological needs satisfaction on the motivational approach to athletes.

Marijana Mladenovic (Sports & Health College, Yugoslavia)

According to the self-determination theory, a coach's motivational approach to athletes was operationalized as a high or moderate orientation towards behavior control or as a high or moderate support of autonomy. The aim was to determine whether the coach's motivational approach to athletes depends on a dispositional trait operationalized as a causal orientation (the belief that the cause of events is internal, external, or impersonal) or on social factors which influence the coach's perception of basic needs satisfaction (for autonomy, competence and relatedness). It is presumed that social factors will have a greater impact in the coach's motivational approach. The General Causality Orientation Scale (Deci & Ryan, 1985), The Basic Psychological Needs Scale (Deci & Ryan, 2000) were applied. A scale of a coach's motivational orientation was developed for the needs of this research. Some 234 respondents were tested, of both genders and an average age of 23.5, students of a college study program for sports coaches. Regression analysis was applied. The high orientation towards supporting the autonomy is only under the impact of an internal causal orientation. An approach based on a moderate control is under the impact of a controlling but also an impersonal causal orientation, and the perception of autonomy and competence. The orientation towards a moderate support of



the autonomy of athletes is under the impact of all three types of causal orientations. The high orientation of coaches towards behavior control of athletes is mostly under the impact of belief in an impersonal and external causality.

P6.48

The influence of self-regulation on the experiences of stress, burnout, and well-being of women coaches.

Natalie Durand-Bush (University of Ottawa, Canada)

Jamie Collins (University of Ottawa, Canada)

Kylie McNeill (University of Ottawa, Canada)

Research shows that although sport coaches face various stressors, little is known about how they effectively cope with them (Levy, Nicholls, Marchant, & Polman, 2009). This study examined the experiences of stress, burnout, and well-being of women coaches and how they are influenced by their capacity to self-regulate. Nine women coaches working within the Competition Stream of the Canadian National Coaching Certification Program (n=5 Development, n=4 High Performance) participated in an open-ended, semi-structured 90 minute interview to examine the demands they face in their coaching environment, their ability or inability to regulate themselves on a daily basis, their overall levels of stress, burnout, and well-being, as well as perceived effects of these factors on their effectiveness as competitive coaches. Interview questions stemmed from Zimmerman's (2000) Social-Cognitive Model of Self-Regulated Learning and Performance as well from Smith's (1986) Cognitive Affective Model of Burnout. The content analysis performed through NVivo9 revealed that the coaches faced various demands and their perceived effectiveness to respond to them varied based on the internal and external resources they possessed. All of the coaches were able to self-regulate, however, their effectiveness to do so diminished under chronic stress. Seven out of nine coaches reportedly experienced at least two dimensions of burnout at some point in their career, which in turn, decreased their well-being and further compromised their capacity to self-regulate. Implications for future research and self-regulation interventions with women in coaching will be discussed.

P6.49

Characteristics of the interactive systems between coaches and basketball players.

Pablo Jodrá (Universidad Alfonso X, UAX, Spain)

Constanza Pujals (UAM, Spain)

Leonardo Montiel (UAM, Spain)

The coach-athlete communication supposes a relevant topic in the study of personal and group interactions. There are observation tools in this process, such as the Coaching Behavior Assessment System (CBAS) (Smith, Smoll y Hunt, 1977), used to evaluate the behavior of coaches in team sports. The objective of this study is to determine if there are differences in the interaction systems that are established by the basketball coaches when it includes players from senior category or youth category. Additionally, in the senior category the difference between men and women's basketball modality is determined. Therefore, the CBAS version adding a new category involving gestural aspects was applied to a sample of 100 coaches during a basketball game.

P6.50

Predictors of satisfaction and coach-athletes compatibility: A study with Portuguese volleyball athletes.

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In the study of leadership, there is a debate about the factors that best predict the leader impact on athletes. In fact, there are authors who claim that the leadership' efficacy should be assessed through teams' performance and organizational results (Kaiser, Hogan, & Craig, 2008) while others propose as indicators the psychological influence of leadership in collaborators/athletes (Courneya & Chelladurai, 1991; Riemer & Chelladurai, 1998).

Hence, this work tries to comprehend which factors best explain the satisfaction and compatibility of the



athletes towards their coaches. The study involved 66 senior male athletes from the first Portuguese national volleyball division, distributed by six teams that qualified to the playoffs. After the playoffs it was applied the Multidimensional Scale of Leadership in Sport (Gomes, 2008); the Athlete Satisfaction Questionnaire (Riemer & Chelladurai, 1998), the Compatibility coach-athlete measure (Gomes, 2008) and the Performance Goal Incongruence Scale (Gomes, 2008).

A hierarchical regression analysis was performed controlling, by this order, these variables: sport records (winner teams and the other teams), achievement of team goals, achievement of individual goals, and leadership dimensions. Results showed that satisfaction and compatibility with coaches were not explained by the first two dimensions. Conversely, they were predicted by the perception of individual goals achievement, and two leadership dimensions (personal respect and fairness and positive feedback). In conclusion, the predictors of leadership impact on athletes depend on the athletes' perceptions about their personal performance and the coaches' actions, confirming the proposal of Courneya and Chelladurai (1991) and Riemer and Chelladurai (1998).

P6.51

The relationship between physical fitness and academic performance in children.

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Considerable studies have demonstrated the positive relationship between fitness and cognitive performance in young and elderly populations. Recently, a few such studies have shifted their attention to children and have focused on academic performance; however, the results are inconsistent. In addition, no study has focused on children in Asia. Therefore, the purpose of the present study is to examine the relationship between physical fitness and academic performance for children in Taiwan. 398 sixth-grade students were recruited in the study. Physical fitness assessment was based on standard protocol from the Taiwan Department of Education, which including measuring performance in the standing long jump, sit-and-reach test, bent knee sit-ups, and 800 meter walking/jogging. Academic performance included the final-term scores of Chinese, English, Mathematics, Social Science and Science. Both physical fitness and academic performances were transferred to percentile rank, where physical fitness was additionally separated into 5 categories. One-way ANOVA with a trend analysis was computed for physical fitness on five academic performances, respectively. The results indicated that: a) there is a significant positive linear trend for 800 meter walking/jogging on Chinese, Mathematics, and Science; b) there is a significant positive linear trend for sit-and-reach on all performances except Mathematics; c) there is a quadratic trend for bent knee sit-ups on Chinese and English; d) there is a significant positive linear trend for standing long jump on Mathematics, and Science. These results suggest that there is a positive relationship between physical fitness and academic performance; however, the effect of physical fitness might be sensitive disproportionately on different academic performances.

P6.52

Physical exercise addiction in Spanish sample.

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Physical exercise addiction is a phenomenon that has attracted researchers' attention in the last years. This study aimed to analyze, in Spanish sample, if there is risk of physical exercise addiction and if there are differences as regards socio-demographic variables. The sample was of 175 people (65% men, 35% women) with an average age of 25.09 (7.49SD). The majority of them, students from Universidad Autónoma de Madrid. Within the group, the 100% did physical exercise, with a 7- to 8- hour a week average (6.29SD). They were given a socio-demographic survey and two scales. The Escala General de Adicción Ramón y Cajal (Brieva, Cabasés and Gurrupide, 2001) adapted to physical exercise (Arbinaga and Caracuel, 2007) and Escala de Dependencia del Ejercicio Físico-EDEF (Pujals and Baile, 2008). The results obtained from EDEF scale were of 59.11 average (15.89SD), existing a significantly difference by genres, there was a positive correlation between the risk of addiction variable and the variables from the escala general de adicción. The percentage of



participants included in the group of risk was of 1,14%. In Spanish population is observed that the obtained marks in risk of physical exercise addiction measured with the EDEF and based on the categorization of the original version of the EDS scale, was with risk of addiction (1,14%); without risk but with symptoms (36%); without risk and without symptoms (62,8%), is similar to other populations, as in the case studies by Hausenblas and Downs (2002).

P6.53

Testing a theory of physical activity maintenance.

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Introduction:

To date, there are only few studies and theories which explicitly concern the maintenance of physical activity behavior. Nigg et al. (2008) proposed a theory of Physical Activity Maintenance (PAM). The purpose of this study is to test this theory.

Methods:

To examine the hypotheses of PAM a study was conducted with 133 members of a fitness studio aged between 19 and 65 years ($M = 25.8$; $SD = 10.0$). Maintenance of physical activity was objectively measured over 12 weeks by a surveillance card system. The constructs of PAM theory were measured by a questionnaire which was completed in the first week.

Results:

The results of hierarchical linear regressions reveal in the first step that the environmental variables perceived barriers ($\hat{\alpha} = -.23$) and family social support ($\hat{\alpha} = .27$) significantly explain 13% of the maintenance behaviour over 12 weeks. In the second step, adding the variables of goal-setting, motivation and self-efficacy, the influence of environmental variables disappears and an additional 25% of the variance can be explained. Thereby, significant predictors are relapse, self-efficacy ($\hat{\alpha} = .28$), cons of the decisional balance ($\hat{\alpha} = -.24$) and commitment ($\hat{\alpha} = .34$).

Discussion:

The results of this study support the assumption of PAM theory that goal-setting, motivation and self-efficacy serve as mediators of environmental influence.

P6.54

Since the motivation for practice to addiction and vigorexia.

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In recent years have begun emerge some studes devoted to analizing the relationship between exercise and sport with the addictive behaviours and even psychopathological variables (Pope, 1997, 2002; Arbinaga, 2003). Concepts like Vigorexia, Muscle Dysmorphia, body image disorders and exercise addiction, share some characteristics and sometimes confusing to differentiate and stablish possible links.

This study is part of a wider investigation that has taken in a sport centers, located in the province of Valencia (Spain), with a valid sample of 181 practitioners of muscle training. We used the Muscular Satisfaction Scale, ESM (González, 2008) that evaluates vigorexia and the Exercise Addiction Inventory (Griffiths, 1996). Data appears interesting, as the positive correlation between the factors "Bodybuilding Dependence" ($p=0.00$), "Behaviour of muscle testing" ($p=0.00$), "Substance use" ($p=0.00$) and "Injury" ($p=0.00$) of the ESM, with the scores on the Exercise Adiccions Inventory. There are not significant correlation between the factor of ESM "Satisfaction muscle" and the scores in EAI, but the trend is negative, in terms suggested by the existing theoretical framework.



P6.55

Psychological Strategies for Greater Commitment Sport.

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The aim of this study was to test the predictive ability of social goals, praise of autonomous behavior, the needs for competence and relatedness, and intrinsic motivation on sport commitment. A sample of 264 soccer players who participated in competitions, aged between 14 and 16 years, was used. The Social Goal Scale in Sport (SGS-S), the Autonomy-Supportive Coaching Questionnaire (ASCQ), the Psychological Need Satisfaction in Exercise Scale (PNSE), the Behavioral Regulation in Sport Questionnaire (BRSQ) and the Level of Commitment Scale were administered. The results of structural equation modeling showed that social goals and praise of autonomous behavior positively predicted perceived competence. Furthermore, the competence and relatedness predicted the intrinsic motivation. Intrinsic motivation positively predicted the future sport commitment. These results highlight the importance of social goals, praise of autonomous behavior and psychological mediators to encourage greater involvement in young soccer players. Future research should focus on the coach's role to improve sport commitment through the development of intervention methods based on social goals.

Keywords:

Social goals, Perceived competence, Relatedness, Commitment, Motivation; Self-determination Theory

P6.56

Does acculturation influence leisure time physical activity among adolescents with migration backgrounds?

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Introduction:

Prior research has shown that acculturation influences health practices. Previous studies have indicated that the level of leisure time physical activity (LTPA) of migrant populations become similar to that of the host population with greater language fluency, increasing years of stay in the host country or with increasing generational status.

Method:

A longitudinal study of psychological functioning, social inclusion and LTPA was conducted with adolescents with migration backgrounds living in Switzerland. In total, 611 students (312 girls, 299 boys; $M=14.29$, $SD=.85$) completed a self-administered survey in their classrooms. A broad measure was used to assess acculturation.

Results:

Adolescents scored very low on assimilation and marginalization, while biculturalism and separation were the most widely used acculturation strategies. Consequently, only these two dimensions were used as predictors in the following regression analyses. These analyses show that after controlling for socio-demographic background, place of birth and length of residence in Switzerland, adolescents' preferred acculturation orientations were not associated with LTPA. This result was found for both organized and informal LTPA, moderate and vigorous LTPA and emerged in cross-sectional and longitudinal analyses.

Discussion:

US research with Asian and Hispanic adolescents using proxy-measures of acculturation showed that later generations are associated with increased LTPA. In contrast, our findings did not support that more acculturated youth engage more in LTPA. However, the results are difficult to compare because of the different cultural backgrounds, in which studies take place, and because of the different samples investigated.



P6.57

Gender Differences In Student'S Perceptions On Individualism And Collectivism In Physical Education.

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The aim of the present study was to examine gender differences in student's perceptions about individualism and collectivism in physical education. The students who participated (601 boys and 683 girls from secondary education) had parents of different origin. For the data collection, the questionnaire "Horizontal and Vertical Individualism and Collectivism" (Triandis & Gelfand, 1998) was used, which was adjusted in Greek population by Kouli and Papaioannou (2007). The modified questionnaire was named "Individualism – Collectivism" and consisted of two factors with 12 items (horizontal and vertical collectivism, and vertical individualism). Questionnaire's validity and reliability were tested and discussed. Moreover, significant differences were revealed between boys and girls. Specifically, girls showed higher mean scores than boys in 'horizontal and vertical collectivism' factor, whereas, boys had higher mean scores than girls in 'vertical individualism' factor. These results agreed with previous research which showed that boys are more individualistic persons than girls. Finally, the above findings are considered valuable information for physical educators, as they could help them during their multicultural classes.

P6.58

Correlates of occupational and leisure-time sedentary behaviour in adults: The Theory of Planned Behaviour and habit strength.

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Purpose:

High levels of sedentary behaviour are associated with poor health but little is known about potentially modifiable correlates of sedentary behaviour in adults.

Method:

We examined the Theory of Planned Behaviour (TPB) and the addition of habit strength in the prediction of sedentary behaviour in an adult sample (N=101, mode age = 40y+). A questionnaire assessed the TPB and habit variables in relation to both occupational and leisure time sedentary behaviour. A 3-day behaviour diary provided a self-reported measure of sedentary behaviour.

Results:

Hierarchical multiple regression analyses revealed that intention did not significantly predict occupational or leisure time sedentary behaviour. Attitude, subjective norm and perceived behavioural control significantly increased the explained variance (R^2 -change = .094, $p < .05$) in occupational, but not leisure time sedentary behaviour. Habit strength increased the explained variance in both occupational and leisure time sedentary behaviour, with a significant increase for occupational sedentary behaviour, explaining 34.3% ($p < .001$) of the variance in occupational sedentary behaviour when habit was included.

Conclusion:

The findings support calls for the addition of habit to the TPB, as habit significantly increased the prediction of occupational sedentary behaviour. This has important implications for traditional information and motivation based interventions, suggesting that traditional behavioural interventions may prove unsuccessful for those people with high habit strength. It is concluded that future determinants and intervention research exploring sedentary behaviour would benefit from the inclusion of a habit strength measure.



P6.59

'Tied by sports' – Exercise dependence among Hungarian university students.

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The growing literature attempts to explore Exercise Dependence (ED), the disease of modern, consumerism oriented life. ED underlines the negative effects of sport on mental and physical health. Previous findings showed various rates in ED. Since there is no standardized tool in Hungary there were only few researches with the focus on ED.

The aim of the present study is to reveal the trends of physical activity in young people, and to check validity of Exercise Dependence Scale-21 (EDS) by Hausenblas & Symons Downs and Exercise Addiction Inventory (EAI) by Terry et al.

The research was conducted in Budapest in 2008 among university students (N=122). Sociodemographic items and the scales EDS and EAI were measured. Wave 1-2 intended to explore the EDS and EAI and confirmed the validity and reliability of the two scales in Hungarian sample.

Our research found that 17% Wave 1 and 12% Wave 2 showed high levels in EDS, further 9% and 5% in EAI. The rates of EDS and EAI were relatively high compared to the previous research results 2-3%. The validity and reliability of the scales were both confirmed.

Measuring the phenomena ED is getting wider attention in the research field. Our study is the first that attempted to reveal the rates of EDS and EAI among university students. EDS and EAI showed high levels. Based on research findings it is very important to start elaborating prevention and intervention programs for this new disease.

P6.60

Eating disorders in high intensity players of various sports disciplines.

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Aim:

The aim of the study was to find out relationships between assessment of one's slenderness, actual body shape, ways used to reduce body weight and any coexisting menstrual irregularities in females practicing various sports disciplines.

Methods:

345 aged 13-18 yrs women practicing sports participated in the study. The control group (N) comprised of 140 girls who had not practiced any sports. Firstly, the subjects' height and body weight were measured in order to determine Body Mass Index (BMI). Next, the subjects were asked to fill in a questionnaire. The items of the survey were devoted to three groups of: self – assessment of one's weight, ways used to lose weight, any menstrual irregularities.

Results:

The research shows, the decisions to reduce body weight are taken on one's own or as a result of coach's pressure. Girls who seek information about rational ways of body mass regulation look for guidelines mainly in women's magazines. As a result they use drastic and irrational methods to lose weight which are hazardous to their health.

Conclusion:

One can easily figure it out on the example of judo players for whom body weight is strongly connected with



the result because of division into weight categories in this discipline. The data on artistic gymnasts who try to reduce their body weight before competitions are also worrying. Their main goal is to achieve flat stomach, which may positively influence referee's evaluation.





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