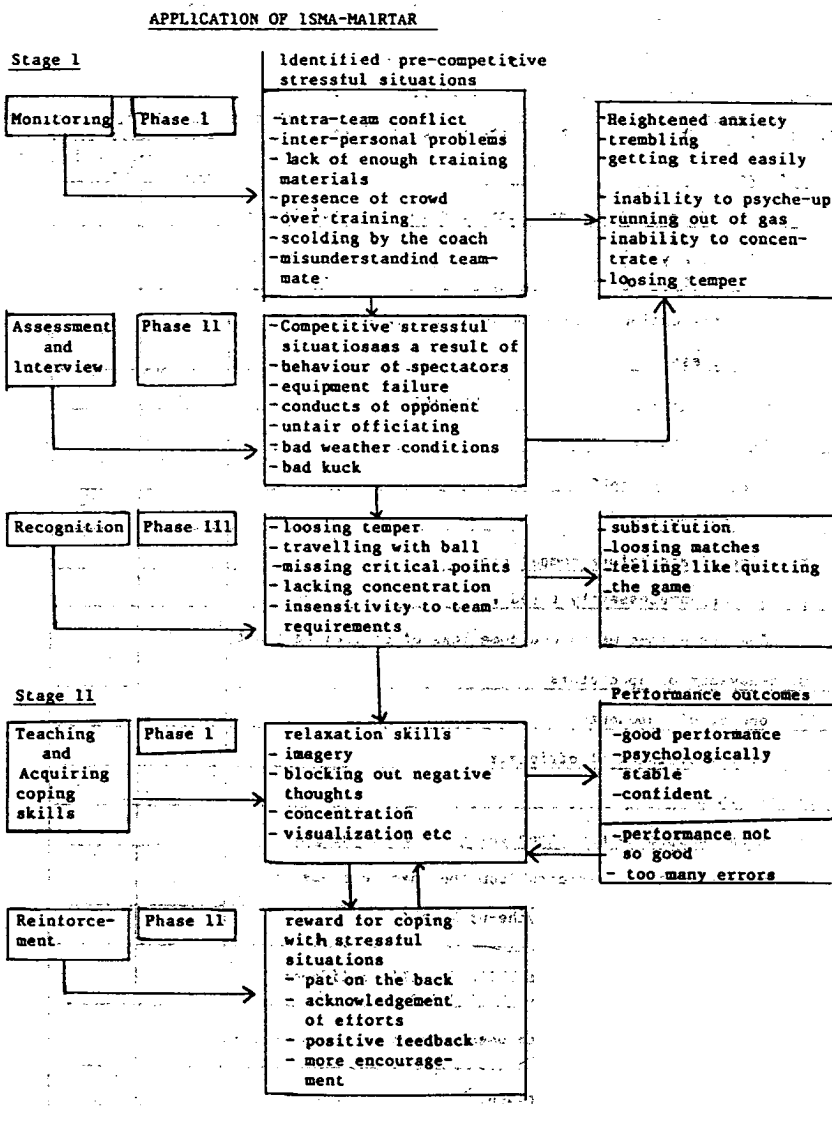
Appendix 3


APPLICATION OF ISMA-MAIRTAR
Stage 1
Identified pre-competitive stressful situations
Monitoring
Phase 1
-intra-team conflict
-inter-personal problems
- lack of enough training materials
-presence of crowd
-over training
-scolding by the coach
-misunderstandind team-mate
-Heightened anxiety
-trembling
-getting tired easily
- inability to psyche-up
-running out of gas
-inability to concentrate
-loosing temper
Assessment and Interview
Phase II
-Competitive stressful situatiosaas a result of
-behaviour of spectators
-equipment failure
-conducts of opponent
-untair officiating
-bad weather conditions
-bad kuck
Recognition
Phase III
- loosing temper
- travelling with ball
-missing critical points
- lacking concentration
- insensitivity to team' requirements
- substitution
-loosing matches
-feeling like quitting the game
Stage II
Performance outcomes
Teaching and Acquiring coping skills
Phase 1
relaxation skills
- imagery
- blocking out negative thoughts
- concentration
- visualization etc
-good performance
-psychologically stable
-confident
-performance not so good
- too many errors
Reintorcement
Phase II
reward for coping with stressful situations
- pat on the back
- acknowledgement of efforts
- positive feedback
- more encouragement

DARSTELLUNG DES ADAPTIVEN KONZENTRATIONSTESTGERÄTES (AKG)

HEINZ-GÜNTHER HOFF, DEUTSCHLAND

Die Ausgangsfragestellung, die zur Entwicklung des AKG geführt hat, war die, die Konzentration während sportlicher oder zumindest sportähnlicher Situationen erfassen zu können. Eine Sichtung bestehender Konzentrationstests ergab, daß sie diesen Anforderungen nicht entsprechen konnten.

Kurzbeschreibung des AKG

Bei dem AKG handelt es sich um ein computergesteuertes Verfahren zur Messung von Konzentration bzw. Konzentrationsverläufen. Dieser Tests zeichnet sich durch folgende Besonderheiten aus:

- die Möglichkeit, den Test parallel zu anderen, wie z.B. motorischen Aufgaben durchzuführen,
- eine variable Gestaltung des Schwierigkeitsniveaus,
- die adaptive Anpassung an das individuelle Leistungsniveau,
- einfache, menügesteuerte Handhabung und
- eine für den Versuchsleiter zeit- und arbeitsökonomische Form der Auswertung.

Erste Untersuchungen zum Zusammenhang zwischen Konzentration und Leistung

In zwei Studien wurden bisher Erfahrungen mit dem AKG gesammelt. Sieler (1990) unterzog 22 männliche und Schmidt (1990) 19 weibliche Versuchspersonen (Vp) einer ansteigenden Fahrradergometerbelastung. Gleichzeitig bearbeiteten die Vpn die Aufgabenstellung des AKG, und zwar über eine Zeit von 2 Minuten pro Belastungsstufe.

Wir hatten erwartet, daß die Leistungsparameter für die Konzentration in einer umgekehrt U-förmigen Beziehung zu den Leistungsstufen stehen würden. Von besonderem Interesse war dabei, ob sich die Überschreitung der 4 mmol/l-Stufe des Laktats in irgendeiner systematischen Weise in den Konzentrationswerten

widerspiegeln würde.

Untersuchungsergebnisse

Die wichtigsten Ergebnisse lassen sich wie folgt zusammenfassen:

- Die beiden qualitativ unterschiedlichen abhängigen Maße für die Konzentrationsleistung (Zeit und Leistungsgüte) standen in keinem korrelativen Zusammenhang (Kendall r=0.05).
- Es ließ sich keine durchgängige Systematik im Sinne einer umgekehrt U-förmigen Beziehung entdecken. Tatsächlich variierten die Ergebnisse im konzentrativen Bereich als Folge der Setzungen von sehr unterschiedlichen körperlichen Belastungen erheblich weniger als wir angenommen hatten (siehe Abbildung 1).

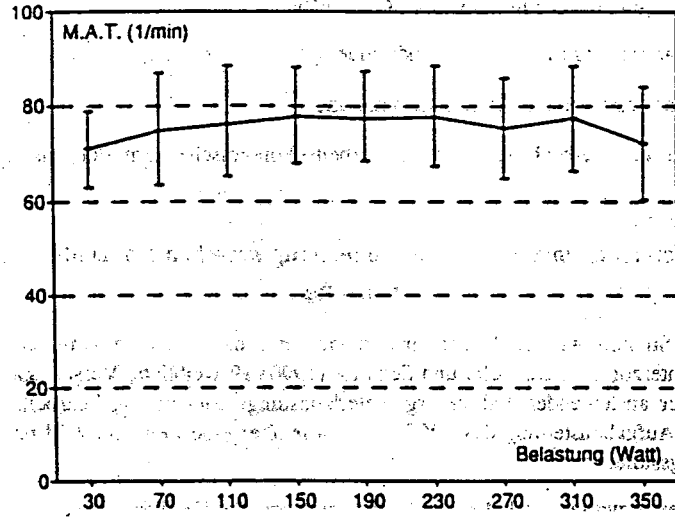


Abbildung 1: Die Beziehung zwischen dem mittleren Arbeitstempo und der Belastung (Mittelwerte der gesamten Untersuchungsgruppe) (nach Sieler 1990, S.43).

- Stattdessen wurden relativ große Unterschiede zwischen den Einzelpersonen deutlich, bei z.T. hoher intraindividueller Konstanz über die verschiedenen Leistungsstufen hinweg (vgl. Abbildung 2).

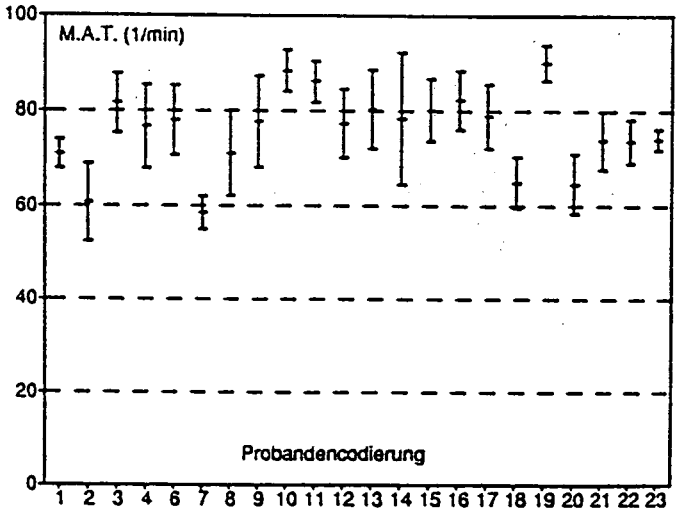


Abbildung 2. Das mittlere Arbeitstempo der einzelnen Versuchspersonen (gemittelt über die gesamten Belastungsstufen) (nach Sieler 1990, S.45).

- Bezogen auf die 4 mmol/l-Schwelle wollten wir wissen, ob möglicherweise die Überschreitung dieser kritischen metabolischen Grenze einen systematischen Effekt auf die konzentrative Leistung ausgeübt hatte. Zu diesem Zweck wurden die Werte jeweils vor und nach dieser Grenze getrennt zusammengefaßt und miteinander verglichen. Weder bei der Reaktionszeit noch bei der absoluten Anzahl richtiger Reaktionen waren die Werte bei einer Irrtumswahrscheinlichkeit von 5% signifikant unterschiedlich.

Aus der anderen Perspektive betrachtet heißt das, daß wir nicht feststellen konnten, daß die konzentrative Leistung bei hohen bis sehr hohen körperlichen Belastungen notwendig schlechter wird.

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Sieler, R. (1990). *Konzentration und physische Belastung. Eine empirische Studie zum Verlauf der Konzentrationsleistung bei aufsteigender Fahrradergometerarbeit bei ausdauertrainierten Männern.* Unveröff. Diplomarbeit, Deutsche Sporthochschule Köln.

8

Differentielle Aspekte sportlicher Betätigung

Differential Aspects of Sport Activity

MOTIVATION AND PERSONALITY TRAITS OF ELITE ATHLETES

MALLE TONTS AND TOOMAS VITSUT, ESTONIA

The present study tries to point out some personality traits and motivation factors of Estonian elite athletes. On the one hand, the different factors of motivation structure have been measured and on the other hand, it has been attempted to help to intensify training sessions of sportsmen to set proper goals and improve co-operation between a sportsman and his coach and by doing this reduce stress factors.

Subjects

Observation subjects were the members of the Estonian national teams in basketball, volleyball, track-and-field, biathlon and swimming (top sportsmen). Another sample consisted of Estonian sportsmen who have shown good results at various international contests (European championship, World championship, Olympic Games). We called this group elite athletes. The number of subjects was N=88. The obtained results were compared to the data of non-sportsmen N=58. The present study deals with the period of 1987-1989 and includes psychological motivation of success and failure, achievement need, motives for doing sport, factors determining athletes' progress.

Method

The main methods were Edwards Personal Preference Schedule (EPPS), Heckhausen projective test modification and tests of willpower traits (Edwards, 1959; Heckhausen, 1963, 1967). A special questionnaire (Blanz & Mäkelä, 1976; Butt, 1987) examining motivation and athletes' biographical data was used for background studies.

Results

One of the most interesting motivation factors was the achievement motivation, which was measured using two different methodologies - verbal and projective. The analysis shows that each method measures different aspects of this motivation.

While the level of achievement motivation of elite sportsmen measured with TAT appeared to be high the same need measured with EPPS appeared to be of average or low level, compared to the other groups. Comparing the contents of two different tests it appeared that the projective method stresses the individual's willingness to do something and to do it better. The verbal method points out the desire to be better than others, containing also a great amount of fear of failure (the hope for success is almost missing). The need to be better than others is considered to be the motivating power for sportsmen. In the case of elite sportsmen it proved not to be true. The significance of the need to be better than others varies with different individuals and in the case of elite sportsmen it does not coincide with their success in sports. An individual may have a high aim in its mind, but in reality may not do anything to achieve it. The level of the need, to do something well and to do it gradually better, measured with the projective test appeared to be much higher in elite sportsmen than in other groups of sportsmen. This refers to the fact that readiness to work in order to achieve the aim can be a characteristic feature of a successful sportsman. The level of achievement motivation in top level athletes measured with the same method was lower than in non-sportsmen (Table 1). The level of achievement motivation being relatively low, we may assume that people do not begin doing sports for realizing directly this need, but sporting activities may accentuate this personality trait. The elite sportsmen's level of achievement motivation shows the same.

The relation of the two components of the achievement motivation, hope for success and fear of failure, measured by the projective test, was different in sportsmen compared to those groups who didn't go in for sports systematically. For ordinary people the hope for success is dominating as a rule, but in the groups of sportsmen the fear of failure was dominating more frequently. The theory of achievement motivation states that the predominance of fear of failure will be formed in a person, who in his or her activities has big chances to experience failure rather than success. But sport has lots of similar situations to offer, especially during competition. Repeated tests also confirm that. Lots of sportsmen who had the hope for success dominating on holidays, developed the dominating fear of failure during the competition period. However, it is not excluded that in the competition situation when the chance to be successful is big the dominating fear of failure will not develop. For example, in the basketball team which was tested immediately before becoming the champion of the republic, the hope for success was greately dominating. The results of experiments show that the relation between the hope for success and the fear of failure depends very much on a situation. But at the same time the general level of achievement motivation changed little during repeated tests and it appeared to be quite a stable personality trait.

The analysis of EPPS factors showed great individual differences. According to the correlation analyses the need of aggression is central in the motivation structure of our group.

Table 1. Results of Thematic Apperception Test (TAT).

Observation subjects	N	Hope for success	Fear of failure	Achievement motivation
Elite athletes	9	8.9	9.6	18.4
Basketball	36	8.1	7.3	15.3
Volleyball	14	6.0	6.3	12.3
Swimming	31	7.3	6.7	14.3
Track-and field	14	5.9	7.4	13.4
Karate	10	7.7	8.7	16.4
Chess	6	6.8	9.0	15.8
University students	20	8.1	7.0	15.1
Medium-level leaders	15	9.4	6.9	16.3
Top leaders	11	12.3	7.1	19.4
Businessmen	32	7.5	5.1	12.6

Sports psychology has paid much attention to the need of aggression. This has been considered as one of the most important components of achieving top results. Our group of elite sportsmen also showed the level higher than average but primarily this may be connected with the special features of a particular field of sports. Starting from B. Cratty's division of different fields of sports according to aggressiveness, we compared this need in people practicing karate and swimming. It appeared that those practicing karate had a much higher aggression level than swimmers. For swimmers the need for change was predominant. The quadrate-shaped swimming pool and the limited horizon in the water contribute to arising weariness and lead to interruption of training.

In our group of sportsmen the need to act together and belong to a group appeared to be strong. This need was especially high among basketball players. However with a high need for affiliation there is a danger to go to a training session to communicate rather than work. The special features of each field of sport must still be considered. Apparently, in the case of team sport the optimal level of need for affiliation is higher than in the case of individual sporting activities and it may also depend on the style of a game. Probably American basketball is prominent for its aggressiveness and aggressiveness must occupy an important role in the motivation structure. Estonian basketball is based on other principles and different factors are significant in the motivation here. In this case the high need to co-operate rather than act alone can contribute to achieving good results. The given above-mentioned basketball team was tested in 1989, in 1991 the same team won the championship of the USSR.

We wanted to find out what influences success in sport most - physical capability, traits of character, a good coach, training facilities etc. 56,4% of subjects pointed

out a good coach. Biathlonists and track-and-field athletes gave higher assessment (66,7 and 57,1% respectively). The significance of physical abilities was 43,6%. Athletes considered character traits more important than physical abilities. Elite athletes also considered a good coach and traits of character more important than physical capability. Correlation analysis shows that usually some component of purposefulness is a connecting link in the structure of willpower traits. The structure of willpower traits is dynamic and, therefore, the focal points are not constant. They are changing together with changes in activity. That is why some other property may temporarily rule in the structure.

The correlation analysis of sportsmen's biographical data and willpower traits shows that the greatest number of statistically credible connections ($r >= 0.25$) occur between purposefulness and self-control, as well as between determination and courage. The indices of sportsman's qualification and willpower traits turn out to be not connected. The central component in the structure of willpower traits is control of emotions. Other indices assemble round it ($r = .44$-$.66$).

Background studies reveal the factors which have influenced our sportsmens's choice of a particular sport event. The more significant factors are the following: attractiveness of a sport event (30-40% of all factors), impact of TV and radio (11-21%), coachs enthusiasm (12-14%). The role of other factors is smaller: good physical abilities (0-7%), being more successful in a particular sport than others (0-10%) etc.

The analysis of training motives showed that the motives depend greatly on physical qualification and sport event. Reaching ones goal and trying out ones abilities and self-excelling got 52,9% and 60,8% respectively from junior basketball players. With the all-Estonian basketball team players the results were only 9,1 and 4,5%. Hence the conclusion: the stimuli for our top-level team are too weak and need to be improved. The motives of the all-Estonian basketball team and other elite sportsmen differ considerably. While the basketball players are victory oriented (72,7%), the elite sportsmen are oriented on both the result (40%) and the competition process (30%). Therefore, the elite sportsmen are not much victory oriented which may be explained by the specific nature of the sport event. The problem whether fear of victory orientation is a general characteristic of our elite sportsmen needs further investigation. At the same time, the factor showing purposefulness for elite sportsmen than for top baketball players (13,8 and 9,1% respectively). This has brought success both at the all-Union and international competitions. Hence a question arises - will greater success follow if purposefulness is more significant?

The indices characterizing the recreational function of training sessions were higher than expected. For basketball players it was 59,1% and for elite athletes 44,7% (the indices for other sport events are lower). The elite sportsmen consider

communication during training sessions more important than developing physical abilities.

Financial profit as a motive is 45,4% for basketball players and 22,2% for elite athletes. The motive of public recognition and acknowledgement is quite essential: 77,7% for elite athletes and 54,5% for basketball players (27,2% of the subjects did not know what to answer). For students the need for public recognition was 33,3%.

Performing various psychological tests increases sportsmen's interest in self-analysis, promoting more conscious approach to the training process and helping to achieve better results. The above-mentioned analysis is especially important for the athletes who are not studying at or have not graduated from departments of physical education.

To sum it up, it may be said that the structure of sport motives is a complex system consisting of a number of elements, the position and nexuses of which depend on both situation changes and the development process of the individual. An athlete must be sure that his motives are changing together with real needs and demands. A sportsman must sense the support of those surrounding him.

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OPERANT PSYCHOMETRICS: PERFORMANCE AND VERBAL STUDY OF "PERSISTENCE" IN ATHLETES OF DIFFERENT SPECIALITIES[1]

ROCIO HERNANDEZ-POZO, FRANCISCA CRUZ, ARACELI SERRANO, CRISTINA FINK AND GRACIELA RODRIGUEZ, MEXICO

Introduction

Personality tendencies for a long time have been assessed via selfreported questionnaires; it is known that this kind of measurements might not reflect actual behavioural tendencies; verbal reports are usually under the control of multiple variables and also people often succesfully manipulate their responses even in multifactorial personality tests (Krahé, 1988).

Operant psychometry, as an alternative to traditional approaches, aims to provide an objective evaluation of behavioural styles by means of techniques developed by the experimental analysis of behaviour (Rodríguez, Hernández-Pozo, Negrete & Fernández, 1991).

After almost seven decades of basic laboratory experimentation, behaviour analysis counts with a wideset of procedures to study the variables responsible for the ocurrence, maintainance and elimination of simple behavioural episodes or complex psychological interactions. On those lines Lundin (1974), Harzem (1984) and Ribes (1990) have formulated few basic guidelines for the behavioural study of individual differences, among them:

1) To use functional definition of situations where individual differences might show up;

2) The objective measurement of dispositions via actual performance in a simulated situation and

3) The inductive construction of a theoretical model of the styles and their interactions.

In this line we have concentrated in the exploration of behavioural tendencies

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[1] This research was supported by grant DGAPA-IN502389 UNAM to Rodríguez and Hernández-Pozo.

among different groups of excellences, such as elite athletes (Hernández-Pozo, Serrano & Cruz, 1991). High performance athletes might exhibit specific behavioural tendencies that single them out from other groups; perhaps persistence could be one of the dispositions that distinguish top rank sportsmen and women from other groups of people devoted to other activities. Given the discipline and the training to which they are subjected, and the high standards of physical performance they have to reach, it is likely that elite athletes develop distinct patterns of persistence in the course of their training. Also it is likely that different sports generate different patterns of persistence, according to their local functional features. Perhaps athletes involved in resistence sports, such as marathonrunners, might differ from other top rank athletes involved in rapid force, ball, precision, combat or artistic competitive sports.

Persistence is defined as the tendency to exhibit high rates of responses where high reinforcement requirements are in play, such as in a typical contest situation. This study presents the application of a computerized operant task designed to measure individual behavioural styles under a simulated situation of persistence. The purpose of this research was toassess whether high performance athletes in general, and marathon runners in particular, differ from other people with similar characteristics not practicing any sport.

Method

The persistence style was analized in the laboratory by means of a computerized videogame programmed with a FR150 schedule, that is, where points were obtained after 150 responses were emitted. Two experimental groups of athletes and a control group participated in the study. One experimental group was composed by 26 men and 20 women, all high performance athletes of different specialities; a second experimental group was composed by 13 marathon runners, 7 female and 6 male, and the control group consisted of 32 students, half of each sex. All subjects were exposed to the operant task followed by a 35 item questionnaire on persistence, specially designed for this research.

Results

Results were analyzed in terms of both the verbal and nonverbal tests. Female elite athletes of the first group had a mean response rate of 119.3, while male had a mean of 143.6. Marathon runner obtained 174.9 for women and 196.8 for men. The control group got 143.2 for women and 120.9 for men.

Data showed that under the same conditions, taking in consideration both sexes,

non athletes do not differ from the mixed athlete group in rate of responses; however a difference was discovered among sexes: female control subject worked more than their male partners, while female athletes scored lower than their male partners. The marathon group got the highest rate of responses of all groups with the same predominance of male subjects over the female athletes observed with the mixedgroup. No significant difference in their verbal selfreported tendency was found.

Discussion

The aim of this study was to assess by behavioural techniques the tendency towards persistence among elite athletes of different sportive specialities and among marathon runners as representatives of the 'resistence sports'. Perfomances of those groups were compared with performances under the same conditions of undergraduate sedentary students, matching in scholar training and ages. This study points in the direction of a line of study that might prove to be benefitial for the detection of behavioural tendencies in top rank athletes.

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ALL-OUT TREADMILL EXERCISE PERFORMANCE, NEUROTICISM AND ANXIETY IN ATHLETES OF DIFFERENT SPORTS AND PHYSICAL FITNESS

KATALIN KUDAR AND MATE PETREKANITS, HUNGARY

Introduction

High-degree neuroticism is known to become apparent in the complex autonomous, behavioural and emotional response to stress. In some athletes the association of strong emotional tension with irritability and depression could often be related to disorders in the adaptation to physical exercise.

Possible reflections of neuroticism (N of EPQ) and anxiety (A-Trait, A-State of STAI) in the physiological variables of physical fitness were studied in low- (N-Minus: 3.49+/-1.52) and high- (N-Plus: 14.08+/-1.08) neuroticism groups of 16 healthy Class 1 or Selected level athletic males each selected from altogether 135 athletes.

Methods

Physiology: Graded all-out treadmill exercise with continuous heart rate monitoring, gas analysis and air volume measurement.

Psychology: Eysenck's Personality Questionnaire (EPQ) Psychoticism, Extroversion, Neuroticism (grouping criterion), Lie scales and Spielberger A-Trait and A-State scales (STAI). The A-STate scale was repeated before and after exercise.

On the basis of works of Guttmann (1986), Martinsen (1990), and Zijderveld et al. (1990), in order to obtain reliable indices of their physical fitness the subjects performed a graded all-out treadmill exercise test. The studied exercise physiological variables were absolute (VO_2max) and weight-related (RVO_2max) aerobic power, respiratory (fRmax) and heart rate (HRmax), pulmonary ventilation (VEmax), fractional and absolute O_2 uptake (FO_2, VO_2) and CO_2 production (FCO_2, VCO_2, gas exchange ratio (R), oxygen pulse (O_2P), metabolic equivalent (MET), respiratory equivalent for O_2 (EQO_2), skin temperature ($T^{o}C$), exercise duration (running time) and blood pH (PH).

Analysis

The two-sample test was used to compare the values of groups. Relationships between the psychological and physilogical variables were studied by zero-order and partial correlations.

Results

Table 1. Biological characteristics.

Low neuroticism group (n=16)			High neuroticism group (n=16)	
Mean	sd		Mean	sd
21.28	3.75	AGE	22.75	4.59
12.31	3.51	Sp. HISTORY	11.68	4.14
180.10	6.13	HEIGHT	178.50	5.13
71.80	8.51	BODY MASS	72.87	5.45

There was no significant difference between the two groups.

There were no significant differences between the low and high-neuroticism groups in any of the variables at the zero, 25, 50, 75, and 100% points of running time.

Difference in the pH value only was significant at the exercise intensity of aerobic power. This reflects the better physical fitness of the low-neuroticism group and their greater mobilization of the low-neuroticism group and their greater mobilization of available energy. Enduring the higher grade of blood acidification implies strong motivation as well.

Table 2. Physiological parameters at the exercise intensity of maxium aerobic power (Means and standard aerobic power).

Low neuroticism group			High neuroticism group	
x	s	Physiological parameters	x	s
133.81	22.84	VEmax	126.66	33.87
50.37	10.28	fRmax	51.75	6.14
4.06	0.47	FO^2	3.94	0.43
4.33	0.64	FCO_2	4.27	0.42
1.08	0.10	R	1.11	0.07
183.00	11.18	HR	180.43	12.33
4.32	0.65	VO_2max	4.20	0.75
4.73	0.72	VCO_2max	4.61	0.84
23.65	4.08	O_2P	23.36	4.41
60.17	7.98	RVO_2max	57.23	8.63
17.15	2.28	MET	16.31	2.48
30.93	3.84	EQO_2	31.80	3.70
32.64	1.44	T^0C	31.82	2.18
7.04x	0.05	pH	7.10	0.04
7.33	1.30	Running time	7.11	3.50

The differences of the two neuroticism groups in the mean of psychoticism, extroversion and lie values were not significant. Anxiety was significantly lower in the low-neuroticism group in all indices (A-Trait: $p<0.001$; A-State$_1$: $p<0.01$; A-State$_2$: $p<0.05$).

In the low N group A-Sate$_1$ and A-State$_2$ were correlated (the linear correlation being .49). In the high-N group all the partial correlation coefficients were high (linear correlation only being significant between neuroticism and trait anxiety: .68)

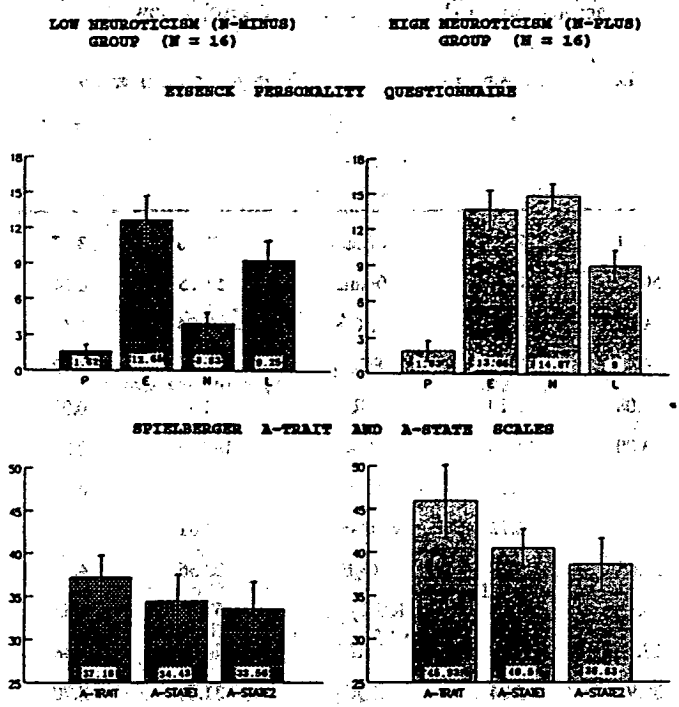

Figure 1. Means and standard deviations of the psychological variables.

Table 3. Significant partial correlations between the psychological variables.

Low neuroticism group				High neuroticism group		
N	A-trait	A-state1	Physiological parameters	N	A-trait	A-state1
			N			
			A-trait	.81		
			A-state1	.74	-.96	
.54			A-state2	-.67	.85	.84

Table 4. Significant partial correlations between the physiological and psychological parameters before the running exercise.

Low neuroticism group				High neuroticism group		
A-state1	A-trait	N-minus	Physiological parameters	A-state1	A-trait	N-plus
	-.86		T°C			
	-.57	-.52	VE	-.70		
	.71	.52	fR	.73		
	.88		HR			
	-.58	-.56	O_2P	.62		
	.73	.58	RVO_2	.74		
	.83		FO_2	-.69		
	-.80		FCO_2	.63		

Preexercise anxiety (A-State$_1$) in the low neuroticism was not related with the physiological variables. The relationships with trait (A-Trait) and neuroticism reflect psychological rather than physical adaptation, at the zero point of running time.

Neuroticism in the low-N group was positively correlated with peak heart rate and negatively with peak oxygen pulse. Increased postexercise anxiety was associated with lower peak ventilation, skin temperature and relative aerobic power. The appearance of postexercise anxiety is the sign of unfavorable adaptation to exercise. In the high-N group no consistent inter relationships were found.

When indirect effects were partialed out, marked differences became manifest between the group of dissimilar neuroticism level as well as between the respective functional significance of trait anxiety and neuroticism, as shown by the change of coefficient signs and magnitudes.

Table 5. Significant linear correlations between the physiological and psychological parameters at the exercise intensity of aerobic power.

Low neuroticism group				High neuroticism group		
A-state2	A-trait	N-minus	Physiological parameters	A-state2	A-trait	N-plus
-.70			T°C			
-.61			VEmax			
			fRmax	.53		
		.52	HRmax			
-.52	-.49	-.50	O_2Pmax			
-.50	-.50		RVO_2max			
.55			FO_2max			
			FCO_2max			
-.55	-.52		pH		-.49	-.55

Table 6. The functional difference between neuroticism and trait anxiety in the neuroticism groups as shown by partial correlation.

Low neuroticism group			High neuroticism group	
Neurot-icism	A-trait	Physiological parameters	Neurot-icism	A-trait
.87	ns	VEmax	.56	-.80
-.52	ns	fRmax	.89	-.92
.84	ns	FO_2	-.89	.72
-.86	ns	O_2P	.81	-.61
.72	ns	T°C	.66	-.93

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PERSÖNLICHKEIT, ARBEIT UND MOTIVATION ZUM TRIATHLON

EINE TYPOLOGISCHE ANALYSE

JÜRG SCHMID UND URS SCHALLBERGER, SCHWEIZ

Problem und Fragestellung

Der Freizeitsport hat in den letzten 20 Jahren eine starke Veränderung durchgemacht. Eine besonders auffällige Entwicklung ist, daß eine breite Masse von Freizeitsportler(inne)n Leistungen vollbringt, die früher einer Elite von Leistungssportler(inne)n vorbehalten waren. Zeugnis für diese Entwicklung legt beispielsweise die unübersehbare *Fülle von Volkssportanlässen* ab, dann aber auch die eindrücklichen *Teilnehmerzahlen* sowie das beachtliche allgemeine *Leistungsniveau* bei derartigen Anlässen.

Die physischen und psychischen Höchstleistungen, die Freizeitsportler(innen) in solchen Wettkämpfen erbringen, sind eindrücklich. Ein Wettkampf in der Sportart Triathlon zum Beispiel, von der im folgenden die Rede ist, führt in der klassischen Form über die Distanz von 3.8 km Schwimmen, 180 km Radfahren und 42 km Laufen. Aus psychologischer Sicht jedoch noch bemerkenswerter sind die unzähligen Stunden, welche die Freizeitsportler(innen) für das Training aufwenden. Dies verlangt einen völlig ungewöhnlichen Lebensstil.

Diese Beobachtungen werfen unmittelbar die Frage auf, wie das angesprochene Freizeitphänomen zu erklären ist. Überblickt man die relevante Literatur, lassen sich - etwas vergröbernd - *drei Erklärungsansätze* ausmachen:

Ein erster Erklärungsversuch setzt das Aufkommen von anforderungsreichen Freizeitsportarten mit allgemeinen - d.h. für Industrieländer westlichen Zuschnitts typischen - *gesellschaftlichen Entwicklungstendenzen* in Beziehung. Damit rücken wirtschaftliche, technologische und soziokulturelle Gegebenheiten und Bedingungen ins Blickfeld. Besonders häufig werden Entwicklungen in der *modernen Arbeitswelt* erwähnt, namentlich etwa die Reduktion der Arbeitszeit (z.B. Wessinghage & Wessinghage, 1987, S. 15, S. 134) oder die Abnahme schwerer körperlicher Arbeit unter gleichzeitiger Zunahme intellektueller und psychischer Belastungen am Arbeitsplatz (z.B. Muschg, 1991, S. 23-24).

Psychologisch gesehen ist diese Erklärung aber noch wenig befriedigend. Ohne Zweifel sind diese Entwicklungen notwendige Voraussetzungen, aber sie sind kei-

neswegs hinreichend. Bekanntlich ist ein Großteil der Bevölkerung von solchen Entwicklungen in der Arbeitswelt betroffen, doch lediglich ein kleiner Bruchteil davon bringt die Freizeit mit extremen Ausdauersportarten zu.

Ein zweiter Erklärungsversuch setzt entsprechend an der Person der Freizeitsportler(innen) an. Es wird angenommen, daß der Grund für eine derartige Freizeitbeschäftigung in einer *speziellen Persönlichkeitsstruktur* liegt.

Allerdings ist auch das Erklärungspotential dieses Ansatzes eher skeptisch zu beurteilen. Denn ähnlich wie allgemein auf dem Gebiet "Sport und Persönlichkeit" ist die empirische Befundlage hier sehr widersprüchlich. Es lässt sich - überspitzt formuliert - kaum eine Aussage über die Persönlichkeit von extremen Ausdauersportler(innen) denken, die nicht durch die eine oder andere Untersuchung zu stützen *und* zu widerlegen wäre (z.B. Singer, 1986, S. 150). Angesichts dieser Ergebnislage erscheint es als wenig lohnend, nach einer "triathlonspezifischen" Persönlichkeit zu fragen.

Ein dritter Erklärungsansatz ergibt sich schließlich aus jenem Gebiet der Freizeitforschung, das sich mit dem *Verhältnis zwischen Arbeit und Freizeit* befaßt: Hier wird stets von neuem die Kompensationsthese vertreten. Sie besagt, daß fehlende Möglichkeiten der Bedürfnisbefriedigung in der Arbeit dazu anregen, Befriedigung in anderen Lebensbereichen zu suchen. Auch diese These ist wenig aussichtsreich: Viele Befunde scheinen nämlich zuz belegen, daß die Beziehung zwischen Arbeit und Freizeit von Individuum zu Individuum variiert und daß sie daher kaum durch ein einziges Modell erfaßbar ist (z.B. Kabanoff, 1980).

Diesen drei Erklärungsansätzen ist *ein* Charakteristikum gemeinsam; sie versuchen, das Phänomen extremer Freizeitsportler(innen) durch *eine* - wenn auch je verschiedene - *generelle* Gesetzmäßigkeit zu erklären, durch den Wandel der Arbeitswelt, eine spezifische Persönlichkeitsstruktur oder ein bestimmtes Verhältnis von Arbeit und Freizeit. Sie scheinen alle wenig erfolgversprechend. Wir wählten deshalb für eine eigene Untersuchung einen differentiellen Ansatz. Er sucht nicht nach *generellen* Erklärungsprinzipien, sondern geht davon aus, daß es möglicherweise verschiedene Typen von Triathlet(inn)en gibt, bei denen eine je andere Erklärung heranzuziehen ist. Ausgangspunkt ist die Vermutung, daß sich hinter dem Phänomen Triathlon eine *Vielzahl* von speziellen Persönlichkeitsstrukturen und eine *Vielzahl* von charakteristischen Beziehungen zwischen Arbeit und Freizeit verbirgt. Diese Hypothese erscheint besonders dann plausibel, wenn man davon ausgeht, daß Triathlon - ähnlich wie die meisten alltäglichen Beschäftigungen - multifunktional ist. Das heißt, Triathlon kann für verschiedene Personen in verschiedenen Lebenssituationen sehr verschiedene Bedürfnisse befriedigen oder eine unterschiedliche persönliche Bedeutung in sich bergen (z.B. Donald & Havighurst, 1974).

In unserem Fall kann man die persönliche Bedeutung am besten erfassen, wenn man nach der individuellen Motivation fragt, den Aufwand für Training und Wett-

kampf zu betreiben. Vor einem solchen Hintergrund ist es mithin notwendig, empirisch drei Bereiche abzudecken, nämlich Arbeitssituation, Persönlichkeit sowie Motivation zu Training und Wettkampf. Demgemäß war auch unsere Studie angelegt. Sie zielte darauf ab, basierend auf diesem Variablenpool *Typen von Triathlet(inn)en* zu identifizieren.

Methode

Unter den knapp 1000 Teilnehmer(inne)n des Swiss Triathlons 1984 in Zürich wurde eine schriftliche Vollerhebung durchgeführt. Die Angaben von 578 Triathlet(inn)en wurden zunächst faktorenanalytisch dimensioniert. Daraus resultierten drei Faktoren der Arbeitszufriedenheit, sechs Faktoren der Trainingsmotivation und drei Faktoren der Wettkampfmotivation. Überdies wurde ein Faktor des sportlichen Engagements identifiziert, mit dem der Stellenwert erfasst werden soll, den Triathlon im Leben von Freizeitsportler(inne)n einnimmt.

Zusammen mit den fünf Standardskalen des Giessen-Tests wurden diese 13 Beschreibungsdimensionen der heuristischen Typensuche zugrundegelegt. Es kamen verschiedene Clusteranalyseverfahren zur Anwendung. Insbesondere wurden hierarchische und iterativ partitionierende Verfahren *kombiniert* angewendet, um die Vorteile beider Vorgehensweisen unter Minimierung ihrer jeweiligen Nachteile vereinigen zu können. Nach Elimination einzelner multivarianter Ausreißer basieren die eingesetzten Verfahren auf insgesamt 566 Proband(inn)en und den genannten 18 Beschreibungsdimensionen, die zwecks Gleichgewichtung standardisiert wurden. Als Proximitätsmaß wurde jeweils die quadrierte Euklid-Distanz herangezogen. Mit dem Ziel, für die daran anknüpfende iterativ-partielle Clusteranalyse eine begründete Auswahl der Anfangspartition zu treffen und entsprechende Kernpunkte ableiten zu können, wurde das Datenmaterial in einem ersten Schritt einer hierarchischen Clusteranalyse nach der Complete-Linkage-, Group-Average-, Average-Linkage- und Ward-Methode unterzogen. Die formal-statistische Angemessenheit der verschiedenen Gruppenstrukturen wurde aufgrund des Heterogenitätszuwachses in Abhängigkeit der Fusionsschritte beurteilt. Die nach Massgabe des Ellbogen-Kriteriums optimale Lösung wurde in einem zweiten Schritt als Anfangspartition im Rahmen eines iterativ-partiellen Verfahrens, der k-means-Methode, optimiert.

Abschließend ist das Klassifikationsergebnis auf seine Güte hin untersucht worden. Abklärungen zur Homogenität und zur Replizierbarkeit, d.h. zur Stabilität gegenüber Veränderung der Gruppenzahl, des Algorithmus und des Proximitätsmaßes, lassen die besagte Clusterlösung als hinreichend abgestützt erscheinen. Sie wurde in weitergehenden Analysen zudem einer externen Validierung unterzogen. Die Berücksichtigung von verchiedenen, nicht in die Typenbildung einbezogenen Vari-

ablen ergab eine ganze Reihe von Hinweisen für den Realitätsgehalt der identifizierten Gruppenstruktur.

Übersicht über die Ergebnisse

Bevor auf die Resultate dieser Clusteranalyse eingegangen wird, sei noch ein anderer Befund erwähnt: Die Auswertungen über die Gesamtgruppe hinweg ergaben in Übereintimmung mit anderen Studien (z.B. McCutcheon & Yoakum, 1983; Clingman & Hilliard, 1987) zunächst unauffällige Befunde: In den Bereichen Persönlichkeit und Arbeitszufriedenheit, in denen ein Vergleich möglich war, erwiesen sich die Triathlet(inn)en als Gesamtgruppe gegenüber Sportler(inne)n anderer Disziplinen bzw. der Allgemeinbevölkerung kaum als unterschiedlich.

Die Clusteranalysen zeigten dann aber, daß dieser Befund tatsächlich - wie einleitend postuliert - dadurch zu erklären ist, daß es verschiedene Typen von Triathlet(inn)en gibt, deren jeweilige Besonderheiten sich bei einer Analyse der Gesamtgruppe gegenseitig aufheben. Insgesamt konnten sechs höchst unterschiedliche Typen identifiziert werden (vgl. Schmid, 1989). Eine umfassende *inhaltliche* Darstellung der Befunde ist in diesem Rahmen undenkbar. Es ist aber möglich, die Ergebnisse ihrer *groben Struktur* nach darzulegen (Abbildung 1).

Um einen Eindruck der Ergebnisse zu vermitteln, sollen der "regenerative" und der "eiserne" Typ exemplarisch betrachtet werden (vgl. Abbildung 2).

Auf der Ordinate sind die untersuchten Variablen - gruppiert nach den Themenbereichen Arbeitssituation, Trainings- und Wettkampfmotivation sowie Persönlichkeit - aufgeführt. Auf der Abszisse finden sich die Ausprägungen in diesen Variablen; Werte in der rechten Hälfte der Darstellung entsprechen hohen Ausprägungen, Werte in der linken Hälfte kennzeichnen niedrige Ausprägungen.

In diesem Raster lassen sich nun die sechs empirisch gefundenen Typen darstellen. Die Abbildung ist zunächst verwirrend. Auf einen Blick erkennbar ist jedoch die Verschiedenheit der Profilverläufe und damit der Merkmalskonstellationen. Ausgehend von jeweils charakteristischen Extremwerten (Ausschlägen) anerboten sich folgende Bezeichnungen für die sechs Triathlontypen: der 'eiserne' Typ, der 'regenerative' Typ, der 'Sunny-Boy', der 'kathartische' Typ, der 'angefressene' Typ und der 'Gelegenheitstriathlet'.

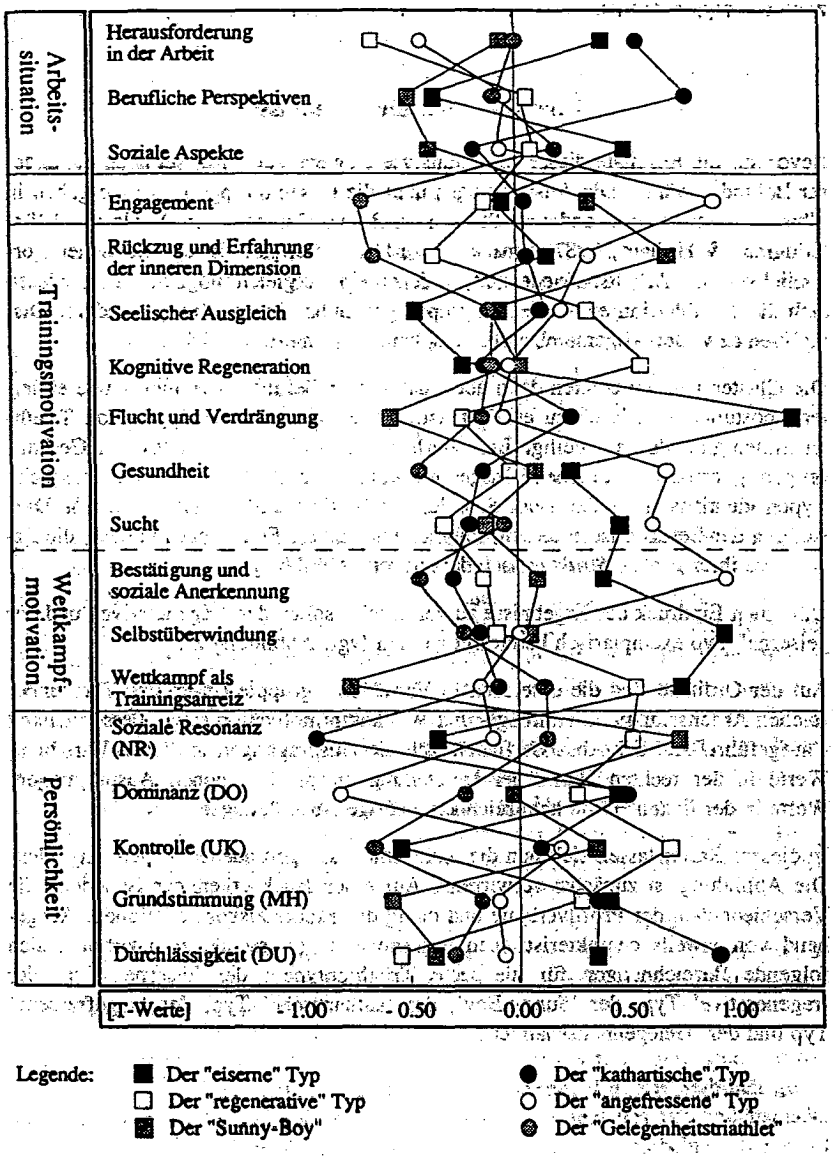
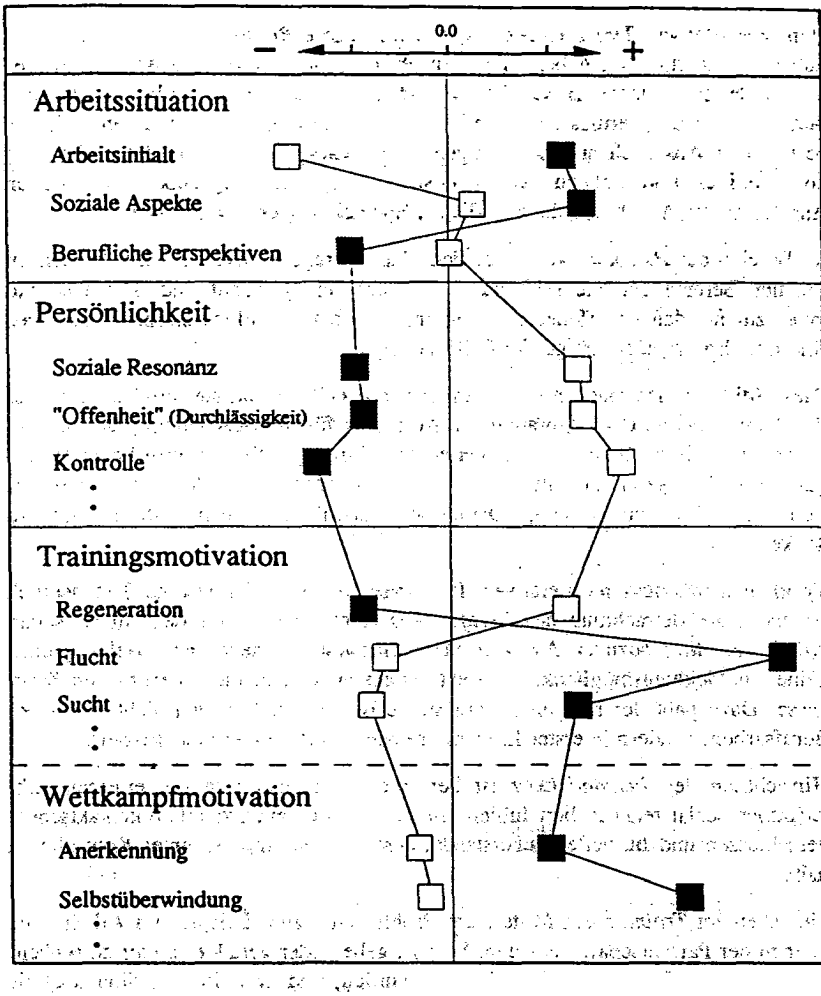


Abbildung 1. Profil der sechs Triathlontypen in den untersuchten Variablen.



Legende: □ Der "regenerative" Typ
■ Der "eiserne" Typ

Abbildung 2. Der "regenerative" Typ und der "eiserne" Typ im Vergleich.

Eine Skizze zweier ausgewählter Triathlontypen

Den regenerativen Typ zeichnet aus, daß die jetzige *Berufstätigkeit* seinen Erwartungen hinsichtlich des Arbeitsinhalts (noch) nicht gerecht wird. Erwähnenswert ist weiter der nicht eigens dargestellte Befund, daß sich dieser Typ überdurchschnittlich stark mit der Berufsarbeit identifiziert. Es liegt daher nahe, von einem hohen beruflichen Anspruchsniveau auszugehen und damit in der Unzufriedenheit ein konstruktives Potential zu sehen. Positiv werden demgegenüber die sozialen Aspekte in der Arbeit und die beruflichen Entwicklungschancen beurteilt.

Im Bereich der *Persönlichkeit* zeigt sich, daß die regenerativen Triathlet(inn)en im sozialen Bereich gut integriert und sozial auch sehr gewandt sind. Dabei kommt ihnen zugute, daß sie offene, ihren Gefühlen gegenüber aufgeschlossene Menschen sind und ihre Impulsivität gut im Griff haben.

Diese Athlet(inn)en machen vor allem *ein Motiv* geltend, das sie zum Training oder Wettkampf animiert. Es gab auch den Ausschlag für die Bezeichnung 'der regenerative Typ'. Gemeint ist die regenerierende Wirkung, die von sportlicher Betätigung ausgehen kann. So hilft körperliche Betätigung diesen Athlet(inn)en dabei, sich vom Alltag zu erholen, 'Dampf abzulassen' oder auch einfach klarer zu denken.

Verglichen mit dem regenerativen Typ präsentiert sich der eiserne Typ deutlich anders. Eine Betrachtung des *Berufslebens* zeigt, daß er mit dem Inhalt seiner Arbeit und ihren sozialen Aspekten verhältnismäßig zufrieden ist. Weil er jedoch keine Entwicklungsmöglichkeiten sieht, erlebt er sich in einer beruflichen Sackgasse. Dazu paßt der hier nicht dargestellte Befund, daß er sich nicht mit seiner Berufsarbeit, sondern in erster Linie mit seinem Sportlerdasein identifiziert.

Hinsichtlich der *Persönlichkeit* ist bemerkenswert, daß sich die eisernen Athlet(inn)en sozial recht isoliert fühlen. Sie erleben sich auch ziemlich kontaktscheu, verschlossen und bisweilen außerstande, ihre inneren Impulse unter Kontrolle zu haben.

Sie sehen im *Training* ein Mittel, um Problemen - zum Beispiel am Arbeitsplatz oder in der Partnerschaft - aus dem Weg zu gehen oder geradezu davor zu fliehen. Triathlon ist außerdem zu einer Sucht geworden, und zwar in dem Sinn, daß sie Entzugerscheinungen erleben, wenn sie einmal ein Training auslassen.

An einem Triathlon*wettkampf* nehmen sie teil, weil sie sich vom Bestehen einer solchen 'Härteprüfung' soziale Anerkennung versprechen. Das Attribut 'eisern' rührt aber letztlich daher, daß es für sie einen eigenen Befriedigungswert hat, die extremen Strapazen eines Wettkampfs auf sich zu nehmen.

Schlussbetrachtungen

Ausgangspunkt der Untersuchung war die Vermutung, daß sich verschiedene Typen von Triathlet(inn)en identifizieren lassen, wenn sie hinsichtlich Persönlichkeit, Arbeitssituation und Motivation untersucht werden. Auch wenn die Ergebnisse nur in groben Zügen haben dargestellt werden können, ist deutlich geworden, daß vieles für diese Vermutung spricht. Zwar scheint Triathlon *von der Tätigkeit her betrachtet*, ein homogenes Phänomen zu sein; aber von einer *Homogenität der Triathlet(inn)en selbst* kann aus psychologischer Warte keine Rede sein. So fanden wir keine triathlonspezifische Persönlichkeitsstruktur, sondern - wie die beiden Beispiele zeigen - höchst unterschiedliche Persönlichkeitsbilder. Wir fanden auch kein triathlon-spezifisches Verhältnis von Arbeit und Freizeit, sondern auch hier sehr verschiedene Muster. Wenn sich die einzelnen Individuen aber dennoch in dieser Freizeitbeschäftigung finden, hat dies damit zu tun, daß Triathlon für verschiedene Individuen eine unterschiedliche persönliche Bedeutung in sich birgt. Konkret: Für den einen, den eisernen Typ, bedeutet Triathlon *Flucht aus dem Alltag*, Flucht aus dem Alltag, für den andern, den regenerativen Typ, *Erholung für den Alltag*.

Wir glauben, daß dieser Befund deutlich macht, warum bisher die Forschung zur Beziehung von Sport und Persönlichkeit oder Sport und Arbeitssituation wenig ergiebig war: Die generalisierende Frageweise und Analysestrategie, die bislang üblich war, verdeckte die Tatsache, daß es verschiedene Typen von Triathlet(inn)en gibt. Erfolgversprechender als eine generelle Sichtweise erscheint daher eine differentielle, und zwar im Triathlon wie wohl in vielen anderen Sportarten auch.

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MODEL OF PERSONALITY PREREQUISITES FOR AN OUTSTANDING BASKETBALL PLAYER

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Introduction and the Purpose of the Study

During the years 1977 till 1990 a group of workers from different fields (medicine, physiology, physiotherapy, training theory, and psychology) has been cooperating with the coaches of the National team of Czechoslovakia in men's basketball.

In those seasons the coaches were several times obliged to select new players for the team; their choice was based on casual observations and they wanted therefore to learn more about them also from the point of view of their psychic capacities and personality profiles. For an effective approach of coaches to the newcomers it turned useful to apply several psychodiagnostic methods.

However it was difficult - apart from the generally helpful analyses of individuals - to make a comparison of new adepts, since the uniqueness of the sample followed was evident. Only later on we found some observeable differences and therefore we tried to learn how the outstanding players were distinguished in results of our diagnostic methods from the other players selected for the National team who failed to stay in the team for a longer time.

Following those results we now try to summarize all findings from that cooperation and to outline a model which may be regarded as presenting the most typical characteristics of the personality of an exceptionally successful basketball player (in the long run).

So the purpose of this contribution is to point out some - according to our investigations and experience - most important personality characteristics of exceptionally successful basketball players.

Methods

The sample included 70 best players from the first Czechoslovak league who were invited to play in the National team. Anamnestic data are in that consequence not very important - they were all young, both Czechs and Slovaks, mostly university or secondary school students, in perfect physical condition.

The methods employed should be divided into three groups:

1. Personality inventories: 16PF, EPI, Leary, Amthauer's Intelligence Structure Test.

2. Laboratory tests: reaction time - simple and complex, ball test (simple sensorimotor test), time estimation, Bourdon, tapping, numerical test, and a dispositive (decision making in a complex task).

3. Observations of players during their training and international matches, interviews with individual players, and sociometry.

Personality inventories and tests were administered to all 70 players, however the laboratory tests were made only by 39 players (the entire session lasted nearly 3 hours - in the repeatedly recurrence of the tests also the trend in performances and the number of faults were followed). Sociometry was made with only 18 the very best players on an occasion closely before a European Championship.

Results

1. Personality inventories were already published on two occasions: the first was an elaboration of statistical differences of 59 players between the playmakers and the pivotmen and wings (Svoboda, 1988). In the second study a complete analysis of variance was computed of all the 70 players between three groups of players of the team - the stars, the loosers and a group of those who fell off from other than performance reasons (injuries and similar) (Svoboda, 1991).

2. Laboratory tests were treated in a quite different way. Since we worked above all for the needs of coaches we focussed on a comparison between the results of players in individual tests and the evaluations of players in the most important game activities made by coaches by means of selected rating scales (Svoboda, 1986).

3. The results of the third group of approaches were so far not published; they were used in discussions with the players, the coaches and also in lectures without of course mentioning the names of the players.

The Model of a Star

On the bases of those investigations and observations we tried to outline a model of a highly successful player in basketball. We mean to say in that way that a player who has the following capacities at a very high rate is disposing of outstanding prerequisites for his development as an international player. It does of course not

concern his physical potentials and abilities.

His must be higher than other players in:

- competitiveness
- aggressiveness
- dominance
- egocentrism and
- radicalism

He should also dispose of:

- thick-skinned, active personality
- fluid intelligence
- high scores in any reaction time
- fast decision making (as e.g. in simple numerical test)
- ability to play his role as on the stage.

On the contrary we found that the following characteristics were not deciding:

1. Temperament (all types were among the best players)
2. general intelligence (a known finding was again verified)
3. affiliation (even isolated individuals were recognized as players)
4. conformness is also unimportant.

It may be of interest that mostly only slight differences were found between playmakers and pivotmen. Significant higher scores were ascertained with pivotmen in cooperation and affiliation, in common sense and emotional stability. The playmakers were more self-reliant, dominant and they were higher in fluid intelligence and in playing the leader's role. All players were low in anxiety.

Conclusion

Every model is always only a scheme. But in this case it may be remarkable that it is based on research findings and long-term following in which during the years the team was several times supplemented. And always the best players who remained in the team were distinguished by at least several high characteristics described in our model.

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RESEARCH CONCERNING MOTIVATION LEVEL, EFFICIENCY AND PLAYER/TRAINER RELATIONS IN VOLLEYBALL TEAMS

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Introduction, Method and Sample

The main purpose of this study is to analyse behavioral characteristics of volley-ball players by means of the "Thill Personality Questionnaire" and the "Scouting" based upon attack efficiency computed during one complete season.

We also analyse trainers' evaluations of the players' personality with a scale based upon the "Thill test" (Thill & Brent, 1982; Thill, 1983).

The study was conducted with 38 volley-ball players (3 high division teams) and 3 trainers.

For each player four scores were computed:

a) the total number of balls received during one match,

b) the number of successful attacks acting for efficiency (expressed in percentage of balls received),

c) the number of missed attacks deriving from a fault

d) the number of attacks, allowing the game to go on.

We think that a 50% efficiency could be considered as a valuable result. On this basis we identify 2 subgroups in each team:

1) Group A: high efficiency level (more than 45% success - less than 20% faults)

2) Group B: low efficiency level (less than 45% efficiency).

Results, Analysis and Discussion

Comparisons Between Players' Subgroups in Terms of Efficiency

Our efficiency scale leading to 2 subgroups is assessed by significant differences within in each team.

Meanwhile the 3 teams present a similar efficiency (+55% for subgroup A and +38% for subgroup B).

Thill Test: Profiles Comparisons

Within each team we compared the A group versus the B group. Similar results occured for the teams I and II (see Table 1 for Team II).

Table 1. Comparison of subgroups for personality profiles. Team II.

	A GROUP		B GROUP		
	$\bar{x}$	s_x	$\bar{y}$	s_y	t
Motivation	6.5	2.2	6.2	1.6	NS
Self esteem	6.1	2.1	4.14	1.46	NS
Psychol. endur.	6.4	2.3	5.42	2.99	NS
Vivacity	7.14	1.46	3.8	1.48	3.75 SP <.01
Surpassing capacity	6.57	1.71	3.7	2.38	2.35 SP <.05
Impulsiveness	5.6	2.6	5.4	3.4	NS
Risk taking	5.2	3.3	6.14	1.86	NS
Emot. Contr.	6.2	2.7	5.57	2.14	NS
Stress resist.	6.8	3.6	6	1.8	NS
Extraversion	4.6	2.6	5.4	1.5	NS
Dominance	4.2	3.7	4.7	1.2	NS
Agressivity	6.14	.91	4.8	2.5	NS
Sociability	6.9	1.6	4.1	1.63	2.8 SP <.02
Cooperation	7.8	1.27	4.6	1.9	2.8 SP <.02
Conformism	2.7	1.25	3.6	2.8	NS
Soc. desirability	2.4	2.3	4.14	1.6	NS

The players of group A (high efficiency level) score higher in the traits of sociability and cooperation than those of group B. Their stress resistance is above average. The same conclusion can be drawn concerning vivacity and surpassing capacity.

Players of group B not only score significantly lower on these scales, but their scores also lie below average, whereas sociability and cooperation scores are at the average value.

Efficiency and profiles' analyses demonstrate that a weak efficiency generally corresponds to a shaded profile or a mal adapted one, even though a successful efficiency is based upon a typical profile, showing characteristics related to a good adaptation at the game situation (vivacity, surpassing capacity, cooperation, sociability...).

Carron, Ball and Chelladurai (1977), Olozska (1982), Starkes and Allard (1983) and Thill and Brent (1982) point out the positive influence of traits such as stress-resistance, submission and emotional control in volley-ball players. Those characteristics reach more than an average level in the A group.

Borgeaud and Abernathy (1987) add the importance of vivacity and perceptual visual cues to attain game efficiency in volley-ball.

Finally, Cose (1986), Carron et al. (1977) and Sprink (1990) demonstrate that group cohesion and cooperation are predominant in volley-ball efficiency. Our results are thus coherent with various experimental studies on volley-ball specific aspects. Those marked differences are not present in team III, in which the subgroups scattering is more pronounced. Meanwhile the attack efficiency of this team is not lower than in the other two teams.

Players' Evaluation by the Coaches

Mood has a great importance in motivation. In the same way a good knowledge of each player's personality plays a prevalent role with regard to the team efficiency (Pygmalion effect). So each player of our 3 teams has been evaluated by his coach. With trainers of team I and II for about 9 or 10 players, we recorded more than 70% of corresponding tendencies between players' personality evaluation by their trainers and individual players' responses. Concerning team III and its coach, we only noticed more than 70% correspondencies with 4 players.

Generally the trainers easily recognize vivacity, emotional control, and psychological endurance, but they don't identify very well sociability, cooperation, and stress-resistance. This appears particularly in team III where sociability and stress-resistance represent less than 40% of identifications. The trainer of this team

is relatively wrong in his perception of his players' personality traits.

It is particularly noteworthy that cooperation and sociability are traits very often badly perceived by the coach, but at the same time play a prevalent role during the competition.

In team III, those traits are situated below the mean standard and express a weak eagerness of the players to succeed in a top division team. Today this team, which was in a good position last year, is involved in a regression process, with a coach unaccepted by the players. The trainer is aware of this situation and asks for a team analysis, but on the other hand, he believes that he has a good knowledge of his players. Considering this lack of cohesion the regression process gets explainable.

Team II improved its position by 5 places, at the same time team I performed one position better, but this team was already situated among the first 3 teams of its championship.

Conclusions

We were able to assess the importance of the personality traits for the efficiency of the attack process with top level national players.

Significant differences appeared mainly in vivacity, surpassing capacity, sociability, and cooperation. This fact seems to underline the assumption that those traits are fundamental personality traits involved in volley-ball games.

Moreover psychological endurance, eagerness to succeed, emotional stability, and stress resistance are really present at a mean or superior level within these players. Therefore such personality traits need to be studied.

Nevertheless neither the coach-player relationship nor the perception of the players' personality by the trainer may be neglected.

According to our (limited) study there is evidence that in teams where a strong relation exists between personality and efficiency in attack, we also remark a good behavioral appraisal of the player by the coach. Finally, we think that this psychological field really needs to be deeply investigated in order to instruct the trainers how to analyse their players' personality in a critical and effective way.

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THE RELATIONSHIPS BETWEEN DIFFERENT PERSONALITY CHARACTERISTICS AND STYLES OF COPING WITH STRESS IN ELITE ORIENTEERS

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Recently, the effect and content of self-regulation strategies have received increased attention in the sport psychology literature. The ambition to examine experience of best athletes, to register self-regulative strategies which they use and to study specific methods which are most beneficial to their performance, seems to be absolutely valuable. The problem with such a research is that there exists a search for the best methods, ways, strategies - to be the best in all the cases. But all of us know that best methods and strategies don't exist - there are best methods and strategies for particular personality in particular type of tasks. The task- and situation-specifity is relatively wide studied but the things are different in the field of studies in individual differences in self-regulation in sport.

The main aim of the present research was to investigate not only individual and typical styles of psychical self-regulation but their dependence on individual differences as well in order to elaborate differential approaches by means of which it will be possible to facilitate the individualization in sport psychological practice.

In this paper a part oft the preliminary findings of the explorative field study on individual styles of psychical self-regulation is presented. The findings under discussion include data related to individual styles of coping with precompetitive stress in orienteers of different sport qualification as well as to the influence of different personality characteristics on the development of these styles.

Method

The subjects (n=80, males: n=44, females: n=36), divided into 3 groups according to their level of qualification in orienteering, were administered questionnaires for measuring extroversion, neuroticism (Paspalanov, Shtetinski & Eysenck, 1984), trait anxiety (Shtetinski & Paspalanov, 1988), social desirability (Paspalanova, 1985), need for achievement (Paspalanov, 1984), and locus of control (Velichkov, Lukarski, Russeva & Genova, 1987) - dimensions known as exerting strong effects on the activity effectiveness.

Individual styles of coping with precompetitive stress were derived from subjects's interviews on the basis of content-analysis of the response.

Results and Discussion

1. Only 5% of the sample used elements of autogenic or psychoregulative training; all other orienteers used only so called "naive" means of self-regulation.

2. It was fixed that use of these means of self-regulation was directed to the 3 mean groups of problems in prestart preparation:

a) Search for optimal extent of arousal.

b) Creation of a system of readiness to competition, adaption to specific system of demands to psychological functions, psychomotorics, cognitive functioning.

c) Creation of one's self-confidence, appropriate self-concept, optimal self-motivation, adequate weaving of forthcoming activity into the network of personality meanings, values, attitudes, life-plans and future time orientations.

Individual's style of psychical self-regulation (or individual's system of means for self-regulation) is built up by components included into 3 subsystem of self-regulation:

- subsystem of arousal regulation;
- subsystem of creating functional readiness;
- subsystem of creating appropriate self-motivation.

Individual's pre-start self-regulation usually includes use of means of all three subsystems.

Typical styles of pre-start self-regulation which were fixed, were characterized of proportion of included means, which belong to different subsystems:

"Distracting" style. Athletes aim to disregard competitive atmosphere, to decrease their responsibility and importance of competition. External stimulation and strong feelings are avoided. It was used a great number of technics for decreasing arousal, relatively less number of technics belonging to the system of creating optimal readiness and too little or no means of the self-motivating subsystem.

"Motivating" style. Athletes aim to activate and motivate themselves in maximal extent. They increase importance and responsibility, communicate intensively to the opponents in order to fill themselves of aggression, demonstrate high self-esteem, self-confidence and will to winn. Negative thoughts and obstacles only stimulate such athletes and make them feel themselves stronger. In this style are combined a great number of means for increasing arousal, for self-motivation and increasing self-confidence, and less number of means for creating optimal readiness.

"Concentrating" style. Includes mainly means for creating optimal readiness, for adaptation to competitive atmosphere; less number of means for decreasing arousal and for creating self-confidence.

"Self-handicapping" style. Includes means of all the subsystems of self-regulation whose application creates a state preventing successful competitive activity. Athletes use negative thoughts and self-evaluations, images of failure, self-aggression, leading to tension, worry and lack of self-confidence. Self-handicapping is personality defence against the feeling of personal inferiority.

3. Relationship between the level of qualification and styles of pre-start self-regulation (Table 1).

Table 1. Relationship between the level of qualification and styles of coping with precompetitive stress (in %).

Styles	Level of Qualification		
	High (Class A)	Intermediate (Class B)	Low (Class C)
Concentrating	77.78	28.57	14.81
Distracting	11.11	28.57	37.03
Motivating	5.56	28.57	14.81
Self-Handicapping	5.56	5.71	25.93
Indefinited	0.00	8.57	7.41

It is shown that increase of qualification leads to the decrease of use of self-handicapping ($t_{A,C}=2.13$, $p<0.02$) styles as well as to the increase in frequency of use of concentrating ($t_{A,C}=5.14$, $p<0.001$) style. In the group of best orienteers predominates the use of concentrating style.

4. Relationships between personality characteristics and styles of coping with precompetitive stress.

The preferences to use concentrating style are typical in the group of emotionally stable orienteers (55.56% of them use this style, vs. 22.22% who use distracting style, 14.81% - motivating style, 7.41% - self-handicapping style), and especially in the group of higher qualification (88,88% of them use concentrating style vs. 11.11% users of self-handicapping style). That is, combination of high sport qualification and high emotional stability is better predictor of preference to use concentrating style.

It was not fixed such a relationship between extroversion and styles of coping but the combination introversion - emotional lability influence the preference to use distracting style (58.33% of this subgroup use distracting style vs. 16.67% users of

concentrating style, 8.33% users of motivating style and 16.67% - of self-handicapping style).

Internals use distracting style more frequently than externals (50% of internals vs. 16.13% of externals, $t=2.81$, $p<0.05$); when using trait anxiety as moderator, it was fixed that 100% of the subgroup of high anxious internals use distracting style. In similar way, the combination of low need of achievement and low social desirability is exact predictor of preference to use motivating style: 100% of orienteers in this subgroup prefer to motivate themselves in very great extent.

Expected relationship between the level of trait anxiety and the use of self-handicapping style was observed as a tendency only in the class C (orienteers of low qualification) - 50% of individuals of high trait anxiety and 14.29% of individuals of low trait anxiety use self-handicapping style ($t=1.345$, $p>0.05$).

All these results evidently show that there exist relationships between level of qualification, personality characteristics and style of psychical self-regulation. These relationships reflect not only influence of particular characteristics but, mainly, the influence of the interrelations of these characteristics, of their complex manifestation.

The system of individual's styles provides optimal balance between personality characteristics and activity's requirements.

Effectively organized individual style of psychical self-regulation allows individuals of different personality characteristics to succeed in self-regulating themselves to efficient competitive activity. Appropriate individual style of self-regulation helps athlete to succeed in coping with stress and in preparing to the competitive activity, that is, this style turns out to be important component of the system of sport suitability.

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PERSONALITY AND WATER POLO

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Research Object

The study of sportsmen's personality allows a first approach of psychological factors, required by a sports activity. Personality can be defined as a "stable and individualized unity of many behaviours" (Huteau, 1985). The reality and the scope of behaviours' coherence constitute the central study's theme. Many theories have approached it. The coherence of behaviours was thought at the level of personal or situational variables. Today, we conceive personality as the result of a dynamic interaction between personal variables and situational variables. In the field of sport psychology, this has led to define a psychological reference profile for every sport.

The situations proposed by water-polo present a big richness. They require, for the players, an important adaptability. Although the evolution of the game level makes obligatory a certain specialization at one of the seven posts of the game, the player must be able to play at another post, if needed. Facing that observation, it seemed interesting to us to apprehend the water-polo player's personality.

Population

Our experimental population gathers sixtyfour water-polo players, who play in the french Championships (N1, N1B, N2A). The average age of our group is about twentythree years old. On average, these players have been playing water-polo for nine years.

We used the Thill's questionnaire of personality for sportsmen, to account for their personality. It evaluates personality through four fields: motivation, activity, control and relation. Each field is estimated by traits of personality (Table 1). Thill (1983) estimated the validities of content, structure, forecast, and the convergent validity of his questionnaire. He calibrated it on 2324 sportsmen and on 256 persons, who did no sport.

We gave them the questionnaires during February 1990. To determine differences between our group and the Thill's reference population of sportsmen, we used Students t-test, with .05 as the signification value.

Table 1. Meaning of 14 traits of personality.

	Low notes	High notes
Desire for success (DR)	Not very ambitious, irresolute, limited interest, passive	Motivated, desire for success, to excel, to acquire status
Self-esteem (ES)	Low self-esteem, unsatisfied, dependent	To self-actualize, influential
Psychological endurance (EP)	Not very tough, dispersal of interests, to become discouraged	Tough, persevering, determined, obstinate
Speed-intensity (VI)	Slow, moderate	Lively, spontaneous, energetic
Psychological competitiveness (CP)	Lack of self-affirmation, to concede	Asserted capacity of surpassing
Control of activity (CA)	Deliberate, reflective	Impulsive, heedless improvident
Taking risk (PR)	To prefer feeling of security, reserved, rigid	Daring, to take risks, spontaneous, reckless
Emotional control (CE)	Changeable mood, sensitive, pessimistic	Stable emotionally, evenness of temper, euphoric
Psychological resistance (RP)	Not very tough to high pressures of environment	Tough to bad lucks, criticisms and stress
Extroversion-introversion (EI)	Introverted, meditative	Extroverted, induced to showed activity, expressive
Dominance (DO)	Submission, tendency to follow, lack of confidence	Dominant, persuasive, aptitudes for command
Aggressiveness (AG)	Tolerant, passive, benevolent, inhibited	Aggressive, fighting to defend his position
Sociability (SO)	Socially timid, reserved, to be self-sufficient	Sociable, to build up contacts
Cooperation (CO)	Self-sufficient, distrustful, egocentric	Cooperative, self-abnegation in aid of the group

Results

The results we achieve characterize the water-polo players as lively and spontaneous (Table 2). They attest that the actual game is on the move.

Table 2. Players' population / Reference population of sportsmen.

		ES	DR	EP	VI	CP	CA	PR	CE	RP	EI	DO	AG	SO	CO
Water-Polo Population Men>17 years N: 64	m	13,68	18,42	13,72	15,83	13,89	10,98	14,45	14,09	15,98	10,78	11,36	10,72	15,39	19,03
	σ	2,85	4,50	4,93	2,87	4,54	3,66	3,73	4,10	3,23	2,85	3,55	3,48	3,65	2,25
Sports Population Men>17 years N: 727	m	12,98	19,12	14,04	14,56	13,14	9,85	13,61	13,71	14,70	9,61	11,18	9,45	13,90	16,76
	σ	NC	5,01	4,55	3,60	4,06	4,12	3,86	4,42	4,33	3,23	3,43	3,75	4,09	3,96
Test t			NS	NS	.001	NS	.02	NS	NS	.01	.01	NS	.01	.01	.001

NS : No significant
.001, .02, .01 : Signification values

The control of activity describes the players as impulsive. This sport requires immediacy in the motor responses, because the contraints of time and adversity press down on the players. They are dependent on the rules and on the game's phases.

The subjects appear extrovert. This psychological type is favourable to the information's hold and to the exchange with others. The high values at sociability and cooperation attest the collective natur of this sport. They convey the capacity of the players to serve the group's objective.

The players show an important psychological resistance. The conditions of the game explain this result. Water-polo is characterized by numerous corporal contacts under water.

The note at aggressiveness reinforces this idea. The players show important fighting aptitudes. Aggressiveness refers to rigour of confrontation, to the duels which are characterized by a reduced distance of confrontation. But it is well integrated into the mastery of the game.

Desire for success conveys a weakness towards motivation. The confidential nature of this sport, the disinterest of mass media can explain this result.

The distinction according to the game levels shows some interesting trends. With the raising of the level some traits get weaker (VI, CA, EI, AG, SO, CO), others strengthen (DR, CP, DO) (Table 3). We observe maturation's process of personality, which comes from the evolution of objectives and game.

Table 3. Evolution by nationals.

		AGE	Year's Number of W.P	Weekly hourly volume	ES	DR	EP	VI	CP	CA	PR	CE	RP	EI	DO	AG	SO	CO
N1 n = 20	m	24,60	9,95	8,90	14,14	19,05	13,75	14,85	15,15	9,85	13,45	14,45	16,20	10,50	12,05	10,45	14,90	18,05
	σ	3,69	3,95	3,89	2,07	4,98	4,62	2,92	3,30	3,41	3,38	3,76	2,78	3,03	2,46	3,89	4,45	2,96
N1B n = 23	m	22,78	9,09	7,00	12,83	18,26	13,17	15,74	12,26	11,65	14,39	13,39	15,56	10,56	10,74	10,48	14,91	19,39
	σ	4,78	4,78	2,97	3,42	4,53	5,45	3,28	5,54	4,44	4,15	3,88	3,66	2,84	3,97	3,51	3,76	1,59
N2A n = 21	m	23,14	6,95	5,09	14,19	18,00	14,28	16,86	14,48	11,33	15,48	14,52	16,24	11,28	11,38	11,24	16,38	19,57
	σ	4,29	4,20	1,73	2,69	4,13	4,78	1,98	3,99	2,74	3,46	4,71	3,24	2,76	3,97	3,13	2,48	1,83
Test		NS	N1>N2A .02	N1>N2A .001 N1B>N2A .02	NS	NS	NS	N2A>N1 .01	N1>N1B .05	NS	NS	NS	NS	NS	NS	NS	NS	N2A>N1 .05

NS : No significant
·01,·02,·05 : Signification values

The best players have an increased level-headedness. It assumes several forms. It conveys a better management of their energy resources, an increase in their psychological competitiveness. At the same time their technical nature allows them to decrease risk in their actions but they still stay efficient.

The increase of extroversion attests this evolution of the behaviour. The players concentrate on pertinent information, without being affected by other influences. Their behaviour is more reflective.

The players of national one appear less aggressive but more dominant than the others. Dominance expresses more self-control and confidence.

With the raising of the level desire for success increases. The stakes differ: the teams of N1 are fighting for the champion's title and their players can be selected for the national team. Taking post of the game into account shows the forwards' superiority over the fullbacks with some traits (Table 4).

Speed-intensity appears as the most discriminative trait. The forwards have to exploit the flawes of the opposing defence, to launch counter-attacks, to come back in defence. They must react with swiftness at all situations. This trait reflects the qualities of liveliness, spontaneity and anticipation.

Table 4. Forwards / Fullbacks.

		AGE	Years' number of w.p.	Weekly hourly volume	ES	DR	EP	VT	CP	CA	PR	CE	RP	EI	DO	AG	SO	CO
FORWARDS N = 25	m	23,48	9,16	6,96	14,82	19,84	13,36	17,84	15,28	10,88	15,60	15,40	16,88	11,84	12,12	11,64	16,48	18,84
	σ	4,35	4,81	2,85	2,78	4,50	4,85	2,92	4,63	3,34	3,29	4,12	2,91	2,92	4,13	3,51	3,51	2,48
FULLBACKS N = 32	m	22,97	7,69	7,43	12,74	18,22	14,22	14,75	12,66	11,22	13,41	12,97	15,14	9,91	10,81	10,25	14,53	19,25
	σ	4,28	3,99	3,86	2,68	3,88	4,97	2,33	4,32	3,85	3,92	3,71	3,29	2,44	3,34	3,36	3,43	1,95
Test t		NS	05	NS	01	NS	NS	001	05	NS	05	02	NS	01	NS	NS	05	NS

NS : No significant
·01, ·02, ·05 : Signification values

This analysis is reinforced by the result at extroversion-introversion. The forwards are dependent on environment. Their extroversion can be justified by their role: they have to disorganize the opposing defence; this forces them to inform themselves about the positions of their adversaries. The information's hold is necessary to acquire a momentary vision of the game.

Sociability and cooperation are reversed. The forwards' sociability expresses itself outside the game and incites them to build up contacts with others. The fullbacks' cooperation is more developed than the forwards one. It conveys their abnegation in aid of the team: They organize and control the game.

The higher psychological competitiveness of the forwards reveals their capacity to surpass themselves. The advanced posts they occupy indicate them as the most dangerous players for the opposing team. They are under the pressure of the defence.

The forwards have to surprise the defence. That is why they have an important score at taking risk. This is facilitated by the self-confidence they exhibit at dominance trait.

The self-esteem confirms this analysis. The better self-esteem of the forwards is explained by their posts, which push them forward. They create and expoit the goal's occasions.

Prospect

This work allows a first analysis of the task, which can come to a more complete

analysis in order to put strategies of psychological preparation in place. Today, our research is going on by a psychological implication with the french water-polo team. The questionnaire of personality for sportsmen represents a first tool to understand the players personality. It clarifies, enriches and orientates the observations made on the ground. Above all it allows to establish relations with the players by the return to each of them, of the questionnaire.

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THE ROLE OF ACTION VS. STATE ORIENTATION IN THE TOP-RANKING SOCCER PLAYERS' COPING WITH FAILURE

SLOW BRAIN POTENTIAL STUDIES

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The degree to which failure causes performance deficits or facilitates performance is of crucial practical importance in the selection and training of topathletes. A better understanding of debiliating effects of failure may among other things, contribute to the development of better procedures for the identification and treatment of "training champions" whose performance drops way below their training level when they are confronted with a dramatic challange during a contest.

Psychophysiology studies behavior from a perspective that emphasizes the biological mechanisms underlying behavior (Coles, Donchin & Porges, 1986). In 1984, Hiebsch and Haschke made an attempt to go beyond Ashby's (1960) view of the brain as a black box. On the basis of data from overt behavior and physiological and psychological processes, the authors proposed a model specifying several principles underlying the mechanisms going on in the central nervous system for realizing a behavioral act. The assumptions of such a model could be tested and revised on the basis of experimental evidence.

Slow potential shifts (SPS) recorded from the scalp reflect to some degree neuronal activities going on in the CNS. Thus, analysis of those potentials during task performance enables a characterization of the functional state of the CNS in terms of field potential changes related to the behavioral act given (Birbaumer, Elbert, Canavan & Rockstroh, 1990). We will report some neurophysiological data exploring the extent to which personality dispositions related to the ability of coping with failure are associated with specific slow brain potential shifts. Are there any characteristic patterns in SPS when subjects experience failure? Are individual differences in coping with failure associated with different potential shifts? We were specifically interested in state orientation as a reliable predictor of individual differences in coping styles. State orientation is characterized by an inability to coordinate cognitive processes in terms of one single current intention, especially after failure (Kuhl, 1981).

Methods

15 members of a top-level football team aged 20 - 32 years participated in the experiment. On the basis of Kuhl's questionnaire "HAKEMP 88" (Subscale: Failure related action orientation - HOM) subjects were classified as action-oriented following failure and 7 subjects as state-oriented. The subjects had to solve arithmetic tasks of the KLT-type under time stress. Immediately after marking the result, subjects were asked to rate their confidence of the decision. They received a small financial reward. Subsequently, a weak light was delivered serving as the feedback signal: green in the case of a correct solution, red if the result was wrong (Figure 1).

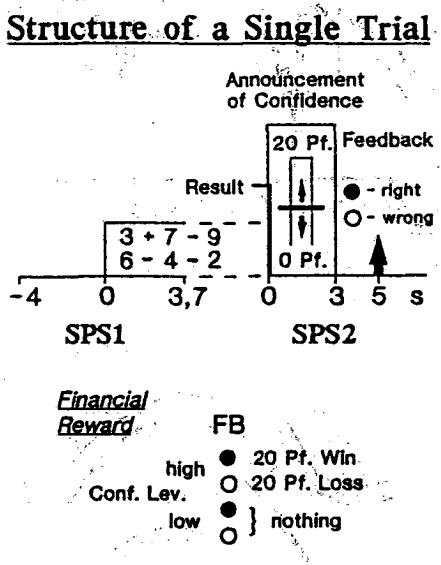

Figure 1. Explanation see the text.

The electroencephalogram was recorded from the vertex referenced to the left earlobe. The amplifier was set to cut off frequencies below 0.008 Hz and higher than 15 Hz. For off-line computer analysis of the task-related slow potential shifts, periods were defined: SPS1 began 4s before task presentation and lasted 7.7s, SPS2 was defined as the 7.7s - interval beginning immediately after the subject had announced the calculated result. The statistical analysis was undertaken to find out whether action- and state oriented subjects respond differently to previous or current success versus failure experiences.

Results

The mean calculation time (ranging from 5.7s in the case of previous and current correct outcome and 6.9s in the case of previous and current incorrect solution of the task) did not differ between action- and state-oriented subjects. In either group, calculation time was not affected by the quality of the current or previous outcome (success vs. failure). Analysis of confidence statements indicated a significant diminution of the confidence statements within both groups in incorrect compared to correct trials.

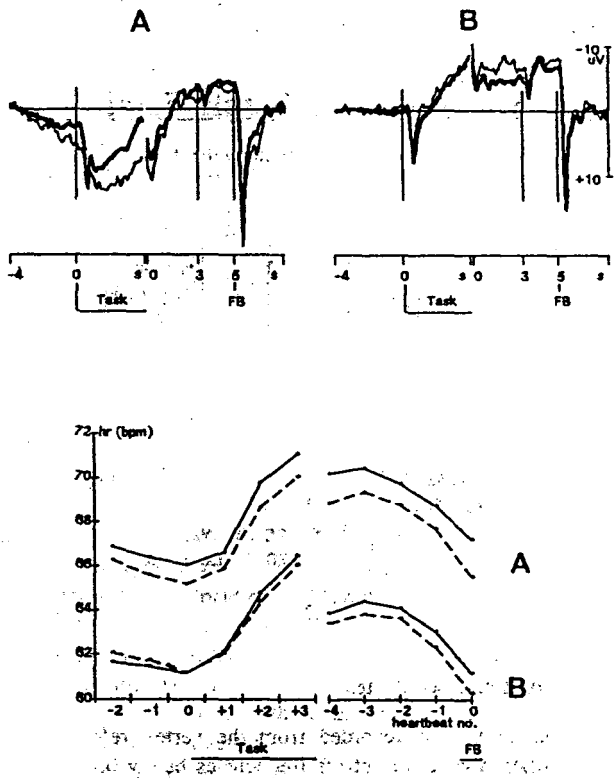

Figure 2. Mean slow potential shifts (upper part of the figure) and task-related heart rate changes (lower part of the figure) in subjects with positive shifts subsequent to a failure experience (A) and subjects without or negative slow potential shifts following failure (B). The full lines indicate the SPS and heart rate changes following successful task solution. The thin/dotted lines indicate the shapes of the SPS and heart rate following failure. Explanation of the different events the Figure 1.

Figure 2 shows the SPS-shapes recorded on trials subsequent to a success or failure experience, respectively

Generally, in action-oriented subjects SPS1 and SPS2 did not differ between previous failure and success conditions. Within the group of state-oriented subjects, the more positive shift during task performance generally in that group is pronounced in trials preceded by an incorrect trial.

In case studies of elite sportsmen we observed very stable SPS-changes in relation to a previous failure. These findings were reproducible a few month later. Athletes rated as highly succesful by their coach showed more negative SPS as a reaction to failure. Less successful sportsmen frequently show positive shifts before and during realization of the task following failure.

In an attempt to further clarify the theoretical meaning of our neurophysiological results, the coach of athletes participating in our experiment was administered a questionnaire assessing our subjects coping with failure during a match. Therefore, we subdivided our sample according to coach's judgement concerning each player's reaction to failure. In subjects minimally affected by failure the SPS changes in trials preceded by an incorrect trial were small. In contrast, dramatic SPS changes following failure were obtained in the 8 subjects rated as poor copers. The positive shift in trials preceded by failure began during the period of task preparation and lasted up to the subject's announcement of the result of their calculation.

These data replicates the one found in subjects classified as state-oriented according to the Action-Control-Scale. The result which shows that this shift is even more pronounced in the former compared to the latter group may be attributable to the fact that the coach's rating of coping ability provides a more specific estimate of the degree of state orientation occuring during a match than the global scale. But we are able to confirm the observation of the more positive SPS in persons affected by failure.

Discussion

The results reported reveal clear-cut differences between action- and state-oriented subjects in slow potential shifts recorded during task performance in the absence of any differences in task performance. Obviously both groups achieve the same performance under different conditions of the activity of the central nervous system. A psychological interpretation can be derived from the theory of action control (Kuhl, 1983). The results are consistent with this theory which suggests that action-oriented subjects are less affected by failure than state-oriented subjects. The latter seem to have problems to coordinate all cognitive activities according to

their intention to focus on the new task. State-oriented subjects cannot stop intrusive thoughts about the failure experience, its causes, and its implications for their self-esteem (Kuhl, 1981).

The interpretation of these results in terms of neuronal activity should be done with caution. The differences in SPS observed between the two groups investigated could be interpreted in a similar manner if the relationship of the steady DC potential and the evoked activity of the brain is taken into account. As Caspers (in press) pointed out the DC baseline shifts during arousal to the negative side. Caspers offers the interpretation of cortical DC shifts in terms of excitation and excitability level of the neuronal network. A relaxed state is connected with lower levels of excitability: the neurons of any task-specific area are available but the facilitation of them and as a result, the behavioural response are not sufficient. In contrast, during states of overactivation the neurons of the highly excited network lost the ability to modulate their activity and the result of any behavioural response is also poor. Comparing the SPS differences estimated between the two groups of our study under the conditions of a previous failure the task-related negative shifts remained more positive in the group of state-oriented subjects. To interpret these observations baseline differences in the DC level between the two groups should be taken into account. Because we were not able to analyse the DC potential level in this group of subjects we compared the heart rate level. Subjects with positive shifts as a reaction to failure showed a heart rate level significantly higher than subjects not so affected by failure (Figure 2). On the basis of this observation we assume differences in the regulation of the arousal level between the both groups of subjects. Under the condition of failure experiences the state-oriented subjects could be overactivated. The neuronal network lost the ability to modulate the task-related electrical activity of the brain. This could be reflected in the lower negative amplitudes of SPS during task performance in state-oriented subjects. Despite the preliminary nature of our theoretical interpretations, the results encourage us in our believe that the recording of neurophysiological data during task performance is a useful and complementary technique compared to the traditional methods used in personality research. Psychophysiological research can profit from an application of personality models because they provide valuable hints as to the interpretation of psychophysiological results.

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DIE SCHIEDSRICHTER UND IHRE MOTIVATIONEN

HENRI FRANCK, M. RAMOND UND R. RUDLOFF, FRANKREICH

Oft wird über die Schiedsrichter geschimpft. Sie sind Schuld am verlorenen Spiel und so weiter... Für alle, Zuschauer und Spieler, sind die Schiedsrichter ein Rätsel. Dies ist ein Grund, die Schiedsrichter unter die Lupe zu nehmen. So wäre es interessant zu wissen, in welchem Zusammenhang die Motivation und der physische Zustand der Schiedsrichter während einem Spiel stehen. Die großen Grundlinien einer mehrjährigen Arbeit werden erlauben, einige Antworten zu bringen.

Für die empirische Untersuchung sind vier Fragen gestellt worden:

1. Wie sind die Schiedsrichter im Vergleich zu der Bevölkerung der Zuschauer, meistens keine sportlich veranlagten Personen?
2. Unterscheiden sich Schiedsrichter verschiedener Sportdisziplinen?
3. Was unterscheidet den Schiedsrichter vom Spieler, im Eishockey zum Beispiel?
4. Wie reagiert der Schiedsrichter während des Spiels?

Einige Antworten auf diese Fragen werden im Folgenden vorgestellt.

Methodik

Untersuchte Stichproben

- Referenzpopulation: eine heterogene Population von 170 Männern im Alter von 15 bis 55 Jahren, bei denen die verschiedenen Parameter der Motivation analysiert wurden.
- Die Schiedsrichter kommen aus den Sportarten Eishockey, Basketball, Gymnastik und Rudern.

Analysierte Parameter

Verschiedene Analysen wurden durchgeführt, die die folgenden Aspekte beleuchten.

- Morphologie: Körpergrösse, Fettprozent, Vitalkapazität und Alter
- Physiologie: Alaktatkräfte, Sauerstoffaufnahme
- Psychologie: Test FHRM = Motivationstest (Franck, Schalk & Ramond, 1985)
- Soziologie: Zusammenarbeit Spieler - Publikum - Schiedsrichter.

All diese Parameter wurden mit verschiedensten statistischen Methoden untersucht.

Resultate und Diskussion

Motivationen der Schiedsrichter, der Spieler und der Zuschauer

Jeder Sport hat seine Regeln. Der Schiedsrichter ist dazu da, ihre korrekte Einhaltung zu kontrollieren. Die Regeln erlauben es Strafen zu erteilen, wenn ein Fehler begangen wird oder wenn ein Verhalten unfair ist. Das heißt im Eishockey: die Strafbank. Was für den Schiedsrichter ein normaler Vorgang scheint, wird oft von den Zuschauern und den Spielern mit Scheuklappen beurteilt, was natürlich die Motivation der Einen und der Anderen beeinflußt. So kann es zu Pfeifen, Zank und Schlägereien kommen. Der Schiedsrichter wird da immer irgendwann als schuldig erklärt, sowohl von den Zuschauern als auch von einem der beiden Teams. Der Schiedsrichter wird Zielscheibe.

Was kann uns in diesem Zusammenhang die Analyse der Motivation der Zuschauer und der Spieler gegenüber dem Schiedsrichter zeigen?

Man stellt fest, daß die Schiedsrichter für die meisten Motivationen, die analysiert wurden, diametral den Spielern gegenüber stehen und daß die Zuschauerbevölkerung einen mittleren Stand einnimmt.

Der Platz, den die Schiedsrichter haben, ist nicht leicht zu halten, da sie sich einerseits durch ihre Unterschiede zu den Spielern und dem Publikum und andererseits durch ihre Funktion im Mittelpunkt befinden. Diese unkomfortable Position kann eventuell, bei Disziplinmangel bei den Spielern, bei ungerechter Zustimmung des Publikums für die eine oder die andere Mannschaft, sehr kritisch werden (Franck, 1988).

So stellt man fest:

(1) Die Analyse der Motivation der Schiedsrichter zeigt ein größeres Nachdenken als bei den Spielern, das Publikum hält sich zwischen den beiden. Das gleiche gilt für die Faktoren Heiterkeit, Leadership und Passivität. Spieler und Schiedsrichter haben dieselbe Individualität, die des Publikums ist geringer.

(2) Die Persönlichkeitsmerkmale zeigen, daß die Beharrlichkeit der Schiedsrichter zwischen der der Spieler und des Publikums steht. Die Impulsivität der Spieler und der Schiedsrichter ist gleich, die des Publikums viel schwächer. Die Abhängigkeit der Spieler und der Schiedsrichter ist gleich groß, aber die des Publikums ist größer. Der vierte Charakter der Persönlichkeit, der Schein, ist am tiefsten beim Schiedsrichter, mittelwertig beim Spieler und am höchsten beim Publikum.

Man kann sich also schon mit diesen Elementen ein Bild machen, von dem was geschehen kann, wenn an diesen unstabilen Strukturen gerüttelt wird.

Unterscheiden sich Schiedsrichter verschiedener Sportarten?

In einer früheren Arbeit (Franck & Ramond, 1985) war es möglich, die Schiedsrichter vom Eishockey mit denen vom Basketball einerseits und denen des Rudersports auf der anderen Seite zu vergleichen.

Es ergibt sich:

(1) Die Schiedsrichter des Basketballs unterscheiden sich von ihren Homologen des Eissports durch eine größere Reaktivität und eine größere Abhängigkeit, aber ihre Leadership und ihre Dynamik sind geringer (Franck & Ramond, 1987, 1988a).

(2) Die Schiedsrichter der Gymnastik zeigen ihren Kollegen des Eishockeys gegenüber eine stärkere Reaktivität, eine größere Abhängigkeit und eine größere Unbeständigkeit. Die Aggressivität und die Impulsivität sind hingegen niedriger. Die Dynamik ist geringer und läßt sämtliche Probleme voraussagen, sowohl im generellen als auch auf individuellem Gebiet. Eine bestimmte Lässigkeit scheint damit verbunden zu sein.

(3) Im Rudersport zeigen die Schiedsrichter eine mindere Impulsivität, aber gestärkte Reaktivität und Schein. Der Schein dient mehr als Maske, als Zustand. Diese Gruppe besitzt aber eine gute Stabilität sowie eine gute Dynamik.

Man kann also schließen, daß die Schiedsrichter ein Motivationsprofil haben, a) das ihnen eigen ist und b) das sich mit ihrer eigenen Sportstruktur identifiziert. Man kann aber auch schon voraussagen, daß die Praxis einer Sportdisziplin oder einer Schiedsrichterkarriere nicht auf den Zufall zurück zu führen ist, sondern die Aussage bestimmter Werte von Kompensationen oder Zurückhaltungen ist.

(4) Wie sind die drei Schiedsrichtergruppen im Vergleich mit dem allgemeinen Publikum?

a) Im Basketball haben die Schiedsrichter eine Reaktivität, eine Aggressivität, eine Beharrlichkeit und eine Impulsivität, die größer erscheinen als die des Publikums. Aber im Gegenteil sind Leadership und Schein geringer. Es erscheint ein Zögern zwischen Abhängigkeit und Individualismus, was vielleicht mit der inneren Struk-

tur der Schiedsrichter im Basketball in Verbindung sein kann. Sie sind also stabiler und mehr zurückhaltender als das Publikum; immerhin können sie explosiv werden.

b) Die Schiedsrichter der Gymnastik zeigen eine Reaktivität, eine Abhängigkeit, eine Beharrlichkeit und eine Unbeständigkeit, die größer sind, haben aber geringere Leadership und Schein als die des Publikums. Die Dynamik erscheint schwächer, und die Schiedsrichtergruppe könnte in einer unstabilen Periode sein.

c) Im Rudersport zeigen die Schiedsrichter größere Aggressivität und Beharrlichkeit, aber eine geringere Reaktivität. Sie erscheinen mit sehr wenig Dynamik, aber mit betonter Individualität.

d) Das Problem der Eishockeyschiedsrichter wurde weiter oben geschildert.

So kann man global zusammenfassen, daß die Schiedsrichter im großen Ganzen gegenüber dem Publikum trotz ihrer spezifischen Eigenschaften von ihrem Sport abhängig sind, und eine gesteigerte Beharrlichkeit, Reaktivität und Aggressivität, aber auch wie schon geschildert, einen geringeren Schein zeigen.

Was unterscheidet die Schiedsrichter und die Spieler im Eishockey?

Im Eishockey kann man sich fragen, was eigentlich Spieler und Schiedsrichter unterscheidet, denn beide sind dem selben Spieltempo unterworfen. Häufiges "stop and go" stellen an Herz und vaskuläres System hohe Anforderungen. Der Gang zur Spielbank erlaubt dem Spieler eine kurze Erholungsfrist (2 bis 5 Minuten). Der Schiedsrichter dagegen bleibt fortweilend auf dem Eis (3x20 Minuten). Er hat nur 2x15 Minuten, zwischen den drei Spielperioden, Zeit um auszuruhen. Man kann auch kaum von Erholungspause sprechen, wenn es um eine gepfiffene Spielunterbrechung geht. Logischerweise sollten Spieler und Schiedsrichter denselben sportlichen Trainingszustand haben.

Die Untersuchungen der beiden Gruppen (120 Spieler der ersten und zweiten französischen Liga und 78 Schiedsrichter der französischen Schiedsrichterliga "LNAF" haben interessante Differenzen herausgestellt, die mit statistischen Analysen bewertet wurden.

Die Resultate ergaben (Franck, Ramond & Bagot, 1987):

1. Auf dem Gebiet der Morphologie: 5 Parameter wurden untersucht. Der einzige, der gleich blieb in beiden Gruppen, war der Fettprozentsatz. Die anderen vier, Körpergröße, Körpergewicht, Vitalkapazität und Alter, wichen signifikant ab. Speziell fürs Alter stellte sich heraus, daß die Schiedsrichter im Durchschnitt 6 Jahre älter sind als die Spieler.

2. Was die physiologischen Parameter anbelangt stellte sich heraus, daß im Bereich der alaktatischen Kapazität und der Sauerstoffaufnahme die Differenzen am signifikantesten sind ($p<0.001$) zugunsten der Spieler. Das bedeutet, daß die Spieler einen besseren Trainingszustand besitzen als die Schiedsrichter.

3. Was die Motivationen anbelangt, kann man einige Unterschiede feststellen. Wie schon erläutert, sind Spieler und Schiedsrichter verschieden. a) Spieler und Schiedsrichter haben die gleiche soziale Abhängigkeit, ein fast identisches Leadership und eine Aggressivität, die bei den Spielern ein wenig stärker ist. b) Der Unterschied für die Reaktivität und die Erregbarkeit ist signifikant ($p<0.05$). Die Reaktivität ist stärker bei den Spielern, die Erregbarkeit größer bei den Schiedsrichtern. Die Unbeständigkeit ist wesentlich stärker bei den Spielern, was durch die fortgehende Infragestellung des letzteren erklärt werden kann. c) Auf dem Gebiet der Personalität ist der Schein, die Abhängigkeit, die Beharrlichkeit und die Impulsivität ein wenig stärker beim Spieler.

Eine Hauptkomponentenanalyse zeigte, daß im Eishockey Spieler und Schiedsrichter zwei fast getrennte Populationen bilden. Die Analyse illustriert auch einige fundamentale Prinzipien: a) Schein und Alter, Reaktivität und Physische Kräfte, z.B. alaktazide Kraft, stehen sich logischerweise gegenüber. b) Man bemerkt klar die Unterschiede, die sich herausstellen, sowohl auf dem Gebiet der Morphologie, der Physiologie als auch auf dem Gebiet der Psychologie.

Wie reagiert der Schiedsrichter während des Spiels?

Diese Untersuchung wurde während drei Meisterschaftsspielen durchgeführt. Es sind also drei Schiedsrichter und sechs Linienrichter, die unter die Lupe genommen wurden. Die Psychotestformulare wurden vor dem Spielanfang und am Ende jedes Spieldrittels aufgenommen. Zur gleicher Zeit wurden 50 μl Blut am Ohr abgenommen, um den Laktatspiegel zu überprüfen.

Die Resultate ergaben:

(1) Die neun untersuchten Schiedsrichter waren 10 Jahre jünger als das Durchschnittsalter der Schiedsrichter.

(2) Die anderen morphologischen Parameter waren mehr oder weniger gleich.

(3) Auf den physiologischen Gebiet waren die 9 Schiedsrichter geringfügig unter den verschiedenen Durchschnittswerten (VO_2 max 49.32 gegen 52.58 ml/kg·min, Alaktazidkraft 84.26 gegen 111.5 kg·m/sec).

(4) die Herzfrequenz blieb, für 3 x 20 Minuten effektive Spielzeit, 34% im

aeroben Bereich, 35% im anaeroben Bereich und 31% nahe einem relativen Ruhestand.

Der Laktatspiegel ergänzt die Erhöhung und die Anpassung der Leistung der Schiedsrichter im Laufe des Spiels. Wird die Laktatkonzentration anfangs des Spiels gleich 100% darstellt, erhebt sich der Laktatspiegel am Ende des ersten Drittels auf 123,5%, auf 135,6% nach dem zweiten Drittel und auf 128,4% am Ende des Spiels. Das bringt als Kommentar mit sich, daß die Schiedsrichter ihre Belastung während der ersten und der zweiten Periode steigern, aber nicht mehr mithalten können während der letzten Periode. Das bestätigt auch die Veränderungen, die auf psychologischen Gebiet festgestellt werden. a) Auf dem Gebiet der Motivationen bemerkt man, daß auf einer Seite die Reaktivität, die soziale Abhängigkeit und die Leadership durchgehend abnehmen, während auf der anderen Seite die Erregbarkeit zunimmt; zur gleichen Zeit fällt die Aggressivität im Laufe des ersten Drittels und nimmt dann steigend bis zum Ende des Spieles wieder zu, aber ohne den Anfangswert wieder zu erreichen. b) Auf dem Gebiet der Personalität merkt man, daß die Beharrlichkeit auf 300% zunimmt vom Anfang bis zum Ende des Spieles. Die Impulsivität steigt ein wenig an, aber sehr schnell verliert sie 30%. Die Abhängigkeit dagegen verliert 60% ihres Anfangswertes im ersten Drittel, um dann wieder 20% bis zum Spielende zuzunehmen.

Wie lassen sich diese Befunde interpretieren?

a) Die hohen Herzfrequenzen, der relativ niedrige Laktatspiegel (gegenüber demjenigen der Spieler) und die sehr stark ansteigende Beharrlichkeit sprechen für einen unbefriedigenden Trainingszustand ($r=.93$, $p=0.032$). Dazu kommt noch ein Zurückziehen auf sich selbst ($r=.94$, $p=0.05$). Es ist klar, daß am Ende des zweiten Drittels eine Tendenz auftritt die zeigt: aushalten und Spiel beenden. Das hat als Folge eine größere Aggressivität, eine Erregbarkeit und eine Beharrlichkeit, die durchlaufend bis zum Spielende steigen.

b) Diese Ergebnisse zeigen folgende Probleme auf:

- Sie stellen klar fest, daß der physische Trainingszustand weit unter dem der Spieler liegt.
- Die Korrelationen zeigen den Zusammenhang zwischen Verhalten und Müdigkeit, was eigentlich der Volksmund in seiner Art illustriert: erstes Stadium = Scheuklappeneffekt, zweites = Propfeneffekt und drittes Hallelujiaeffekt! Diesen drei Stadien kann man eine psycho-physiologische Erklärung anhängen (Franck & Ramond, 1988b).

Eine letzte Frage könnte man noch stellen: Wie verhält sich der Schiedsrichter von einem Spiel zum anderen? Dieses Problem wurde untersucht, indem derselbe

Schiedsrichter mit seinem Kollegen (zwei Schiedsrichter für ein Spiel ohne Linienrichter) während zweier Spiele innerhalb von zwei Wochen unter die Lupe genommen wurde. Wie schon weiter oben erklärt, wurde der Motivationstest vor dem Spiel und am Ende jedes Drittels ausgefüllt.

Die Ergebnisse stellen fest:

1) Während jedem Spiel versuchen die Schiedsrichter sich anzupassen. Es kann zu diskreten Einflußzänkereien kommen (Franck & Ramond, 1986).

2) Der Schiedsrichter, mit dem das Experiment durchgeführt wurde, reagiert offenbar spezifisch auf jedes Spiel im Zusammenhang mit seinem Kollegen.

3) Wenn alle Parameter spezifisch summiert werden für beide analysierte Spiele, kann man ein Mittelwertmotivationsdiagramm aufbauen. Auf dem erscheint, daß im Grunde die fundamentale Motivation des Schiedsrichters gleich bleibt innerhalb von zwei Wochen. Man kann nur feststellen, daß während des ersten Spiels ein kleiner Schein da war, der aber am zweiten Spiel weg war. Ist die Durchführung des zweiten Tests die Schuld daran? Diese Frage läßt sich stellen. Außerdem merkt man auch im zweiten Spiel einen kleinen Anstieg der Beharrlichkeit; die selbe Frage kann sich noch einmal stellen.

Zusammenfassung

1. Die Schiedsrichter bilden eine eigene Bevölkerung, die zwischen den Spieler und dem Publikum liegt, und dies, welche Sportdisziplin es auch sein mag.

2. Der Schiedsrichter ist die Person, auf die es ankommt, ob das Spiel fair bleibt oder in Raufereien ausgeht.

3. Der Schiedsrichter ist ein Sportler. Das verlangt von ihm gute physische und psychologische Kondition, die mindestens gleich hoch oder höher sein sollte als die der Spieler. Sei die Situation der Schiedsrichter bewußt oder unbewußt, sind auf einer Seite die Parameter Reaktivität, Erregbarkeit, Abhängigkeit, Beharrlichkeit und Aggressivität, und auf der anderen Seite das Abnehmen der physischen Kondition die ersten Faktoren, die den Ablauf des Spiels beeinflussen werden. Zweitens sind die Schiedsrichter auch noch abhängig von den positiven oder negativen Reaktionen des Publikums und der Spieler der beiden Mannschaften. In einer früheren Arbeit im Handball (Franck, Gagnon & Ramond, 1987) kann man die Veränderungen dieser Faktoren verfolgen. Drittens wird jede Veränderung eines oder mehrerer dieser Faktoren die Verhältnisse Schieds-

richter - Spieler und Schiedsrichter - Publikum mehr oder weniger stark beeinflussen.

Man merkt also, wie leicht es möglich ist, das Gleichgewicht in einem Spiel zu ändern, wenn man bewußt oder unbewußt auf das Publikum und/oder auf die Spieler irgend einen Einfluß ausübt, was als Folgen haben wird, die Arbeit der Schiedsrichter mehr oder weniger zu hemmen mit all den Konsequenzen, die wir geschildert haben und auch jeden Montag in den Sportzeitschriften lesen können.

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CHARACTERISTICS OF CURRENT RESEARCH ON SELF-EFFICACY, SELF-ESTEEM AND SELF-CONFIDENCE IN SPORT

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Introduction

Present study analyzes characteristics of current research on Sport Self-Efficacy, Self-Esteem and Self-Confidence that has been carried out between 1985-1989. This study did not include the following articles because the abstracts were not available: T. Boufard and A. Pinard (1988); J.E. Butcher (1989); A.E. Foon (1989); E. McAuley et al. (1989); J. Taylor (1989); M.R. Weiss et al. (1989). The documents about such topics have been collected from the Psychological Abstracts, Social Sciences Citation Index and the Proceedings of the VI and VII International Congress of Sport Psychology.

Method

A bibliometric and contents analysis of revised material has been carried out.

- First, we selected the abstracts about Self-Efficacy, Self-Esteem and Self-Confidence included in the Psychological Abstracts' categories: Sport, Sport Psychology and Specific Sports.
- Second, we used the categories Self-Efficacy, Self-Esteem and Self-Confidence from the Social Sciences Citation Index like first terms. Second terms were: Sport, Physical Performance, Exercise, Motor, Body, Body Image, Athletes, Perceived and Perception.
- Third, we selected the works about Self-Efficacy, Self-Esteem or Self-Confidence from the Proceedings of the VI and VII International Congress of Sport Psychology.

Results

Bibliometric Analysis

Productivity

The 45 articles have been published by 88 different authors (Self-confidence = 9, Self-efficacy = 23, Self-esteem = 13).

Collaboration Between Authors

During the periode studied more than 75% of the published articles have been written by two or more authors.

The collaboration index is 2.44 for Self-Confidence; 2.30 for Self-Efficacy; and 2.15 for Self-Esteem.

Journals Where the Articles are Published

The most productive journals appear in Table 1.

Table 1. The most productive journals.

	A	B	C
Adapted Physical Activity Quarterly	1	1	-
International Journal of Sport Psychology	1	1	1
Journal of Social and Clin.Psych.	-	1	1
Journal of Sport Psychology	2	4	-
Medicine and Science in Sports and Exercise.	-	1	1
Perceptual and Motor Skills	-	2	2
Proceedings (7th)	2	4	-
Others	3	9	8

A= Self-Confidence; B= Self-Efficacy; C= Self-Esteem

Origin of the Articles

The most productive country is USA with 34 articles (75.55% of the total). The following countries are Canada with 5 works (11.11%), England with 3 works (6,67%) and Finland with two works (4.45%).

Considering the three topics separately, see Figure 1.

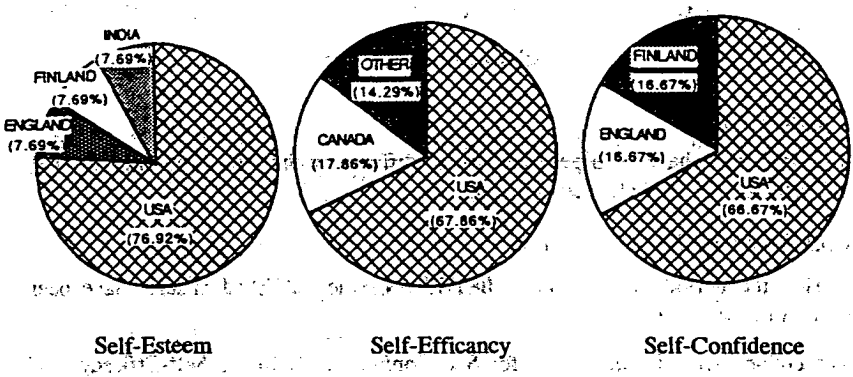

Figure 1. Distribution of the Self-Esteem, Self-Efficacy and Self-Confidence articles considering the country origin.

Contents Analysis

Articles Orientation

With respect to self-confidence all the articles are empirical. Also, the orientation of the self-efficacy and self-esteem articles is principally empirical (cf. Figure 2).

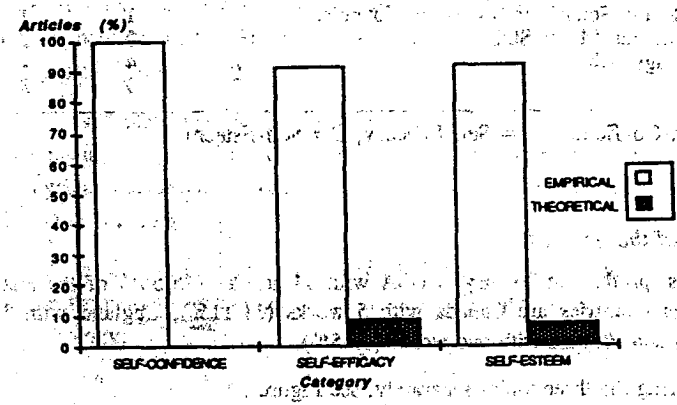

Figure 2. Distribution of the articles considering the empirical or theoretical orientation.

Empirical Articles Aharacteristics

a) Articles methodology.

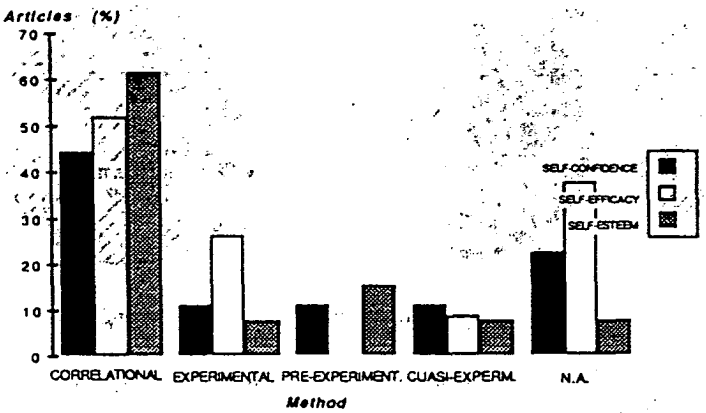

Figure 3. Distribution of the articles the analysis method used.

b) Instruments used for collecting information.

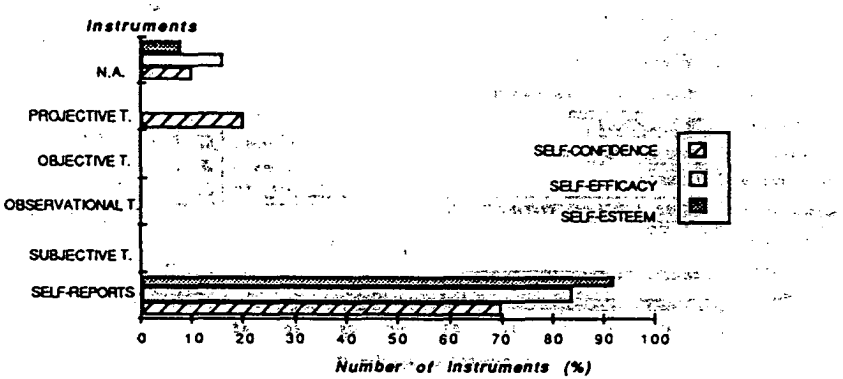

Figure 4. Type of instruments for collecting information used in the analyzed articles.

c) Statistical techniques used.

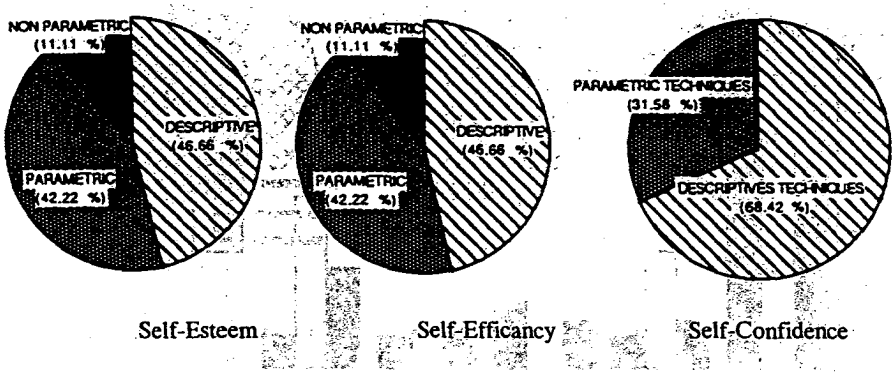

Figure 5. Statistical techniques used in Self-Esteem, Self-Efficacy and Self-Confidence articles.

d) Characteristics of the subjects.

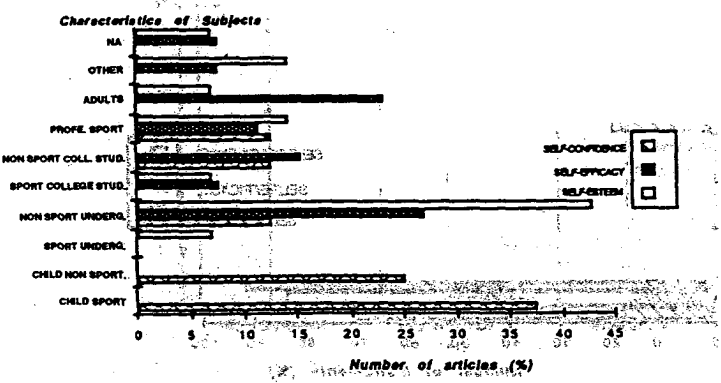

Figure 6. Characteristics of subjects used in the analyzed articles.

e) Sports investigated.

Table 2. Sports investigated.

Sports	Self-Confidence	Self-Efficacy	Self-Esteem
Aerobic	0	0	2
Alpinism	-	-	1
Baseball	0	0	1
Basketball	1	1	1
Ice hockey	-	1	-
Karate	0	0	1
Marathon	-	1	-
Rapelling	-	1	-
Running	0	0	1
Soccer	1	-	-
Swimming	-	1	-
Track and field	1	-	-
Various	2	1	1
Physical task	-	1	-
Task	1	7	-
Not available	3	7	4

f) Variables related with self-confidence, self-efficacy and self-esteem.

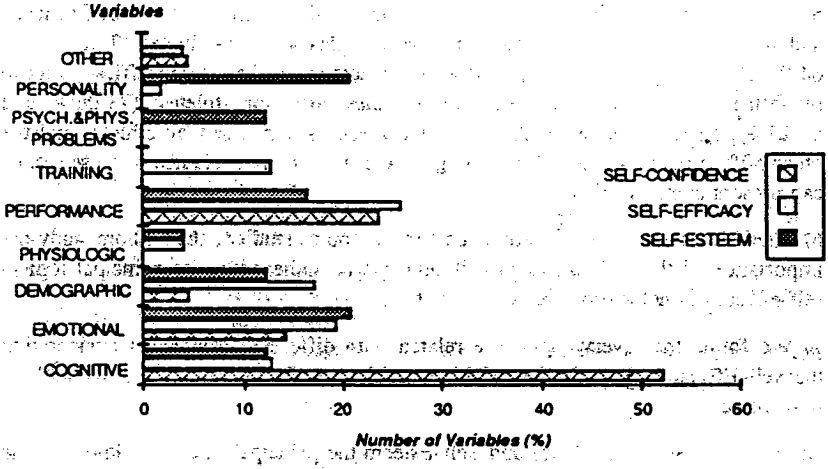

Figure 7. Analyzed variables in the articles.

Conclusions

Bibliometric Analysis

1) Self-efficacy is the most productive category with 23 articles. The authors more productives in this concept only publish two articles during five years revised.

2) U.S.A. is the most productive country for the three subjects studied and for each of them separatly.

Contents Analysis

1) Most of the published works are empirical.

2) The principal methodology is correlational. The experimental works are relatively significative in the Self-Efficacy articles.

3) Self-reports are the most used instruments for collecting information. The most used instrument in Self-Efficacy category is "Physical Self-Efficacy Scale" of Ryckman (38%) and the "Rosenberg Self-Esteem Scale" (42%) in Self-Esteem category.

4) The most used statistical techniques in Self-Efficacy and Self-Esteem, are the inferential ones. In Self-Confidence, the more used is the descriptive one. So, the two first topics are more interested in the prediction.

5) The results about the "characteristics of the subjects" show that in self-efficacy and in self-esteem the most representative samples are non-athletes (73.06% and 64.27%). In self-confidence the 50% of subjects show that in self-efficacy and in self-esteem the most representative samples are non-athletes (73.06% and 64,27%). In self-confidence the 50% of subjects is composed by athletes and the other 50% by non-athletes. Thus, the generalization to sport studies of these results can present some problems.

6) There is not any representative sport in the topics studied, the authors study the importance of these variables in different sports. Otherwise, the principal topi in self-efficacy is not a sport but a specific task.

7) We found that every topics are related with different variables. Considerating the Self-Efficacy, the influence of this variable over the performance is the authors first interest.

Otherwise in Self-Confidence and Self-Esteem the principal interest is knowing the relationship between these variables with cognitives ones (self-confidence), emotional and personality variables (self-esteem).

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9

Varia

STRUCTURE AND FUNCTION OF SPORT SCIENCE WITHIN THE SCOPE OF THE HUNGARIAN DEMOCRATIC SPORT

TOWARDS A BETTER UNDERSTANDING AND COOPERATION OF EUROPEAN SPORTS PSYCHOLOGISTS

LASZLO NADORI, HUNGARY

First of all let me speak about the political changes in Hungary which have made changes in structure and function of Sport science possible.

It is extraordinarily encouraging that the Helsinki Process caused rusting of the "Iron Courtain", that it led to the conclusion of historical disarmement negotiations and finally it meant acceptance of the Paris Chart for a New Europe. In the context of this development, totalitarian regimes of Middle-East Europe crashed, and in these countries new democracies are painfully being born. Our country is going through a very complicated period in which it is vulnerable from the political, economical and social point of view. That is why I am stressing the importance of the support and solidarity of Western countries in all the areas of society and economy, including sport.

As sports scientists, we could feel certain satisfaction that the notion of cooperation is not strange to us, that the Iron Curtain has always been a little diversified for sports scientists, we often went ahead of time and delivered lessons in many cases at many Congresses, Conferences organised by West European organizations also to the politicians. That is why cooperation under more favourable conditions could be easier for us in the future.

Europe tends to integration, to closer cooperation, and it is a challenge also for sport, including sport psychology.

According to the experiences gained during one and a half year, our political model is viable, the sports associations are able to cope with democratic principles and clubs and unions evaluate priorities of cooperation and common platform above all for carrying through their justified interests toward state and society. At the same time we use our experience in sport achieved in more than 100 years and we must link up with all positive activities.

The development of physical education and sport movement in our country and probably in the whole Middle and East Europe in the next few years, will not continue without problems. Under existing economic conditions, politicians and economists will not see sport and sportscience as priority, they will not pay

attention to its irreplaceable function in health care, education and culture. We can see this tendency even today in discussions about various laws and financial support given to sport, and this tendency will manifest itself also in the international area, above all in the decreasing number of international relations and performance of athletes in these countries. We hope that this phenomenon is a transitive one and that, simultaneously with the recovery of our economy, it will directly assist sport and sports science and create conditions for own undertaking of the individual physical education subjects at the same time.

Our attitude towards European cooperation in sport is explicit also in these complicated conditions. Our sports organization will support all useful projects for the development of bilateral and multilateral cooperation in sports science, including sport psychology.

It is our conviction that sport should not serve to political, economical or cultural superiority of any countries, that it should not become an arena of chauvinism; it should not separate athletes and nations, but on the contrary, it should link them. That is why we appreciate possibilities of continuous cooperation in Middle and East Europe on an apolitical basis.

Hungary is an ordinary member of the Council of Europe. This is one of the reasons why we underline our interest in cooperating on the whole-European basis. We propose to enlarge every positive experience of cooperation to the whole Europe, to try to formulate new interesting projects. I am endowed with the right to propose by name of our delegation the enlargement of sports relations namely by joint ventures in research, by exchanges of young scientists, by inviting experts, professors, by inviting You to take part even at the next FEPSAC-Congress if the General Assembly decides accordingly.

We have to pay attention to the lack of institutional hierarchy of the European cooperation in sports science. There are many international organizations with special and common aims operating in European sport today. Urgent need for certain coordination is clear. It is my opinion that FEPSAC can play a role in this respect successfully, thanks to its wide range of interests.

The Seminar on Planning the Future of Sport at which I took part at Pajulahti Finland from 25-28th September, 1990 had made a number of recommendations with a connection with sports research included:

- a comparative study of the health and cultural benefits of sports;
- incentives for clubs to introduce innovative activities at local level to respond to new needs (e.g. sport for older persons);
- study of new types of recreational sports facilities at local level;

- ensuring equal possibilities for the development of sport for all in all European countries concerned.

Sports Psychology has a definite role when solving all these problems.

Cooperation is of a special value in the era of social and political changes. FEPSAC is based upon "sui generis" cooperation. It brings its member organizations closer to one another, it offers opportunities for presenting the results of scientific research, for discussing them, and also makes it possible for experts to exchange their experiences. As a minimum program sport-psychologists of East-European countries undergoing political and economical changes, have significantly contributed to the development of sport-psychology. These are facts. Results of Hungarian and other East-European research workers and the whole of their intellectual products have worked their way into the activity of West-European scientists, have influenced their thinking, and vice versa.

Therefore I would like to call on the attention of the participants of this congress to search together for new, effective ways and methods for the sake of the development of European sportpsychology.

Gymnastics in Hungarian schools has a long tradition. In 1868 was issued a law to include gymnastics in the school curriculum as a mandatory subject and the training of sports teachers started in 1871. With the exception of the games in Antwerpen and Los Angeles we have participated in all the Olympic Games since 1896.

The organic development of Hungarian sports was broken in 1948 by the reorganisation of the system of sports management into a Soviet type system. As this kind of management was unable to become an organic part of reality, the party-state has often altered the system. All the changes brought forward new managers.

The main features of the Soviet type sports management included the followings:

1. Central management, which has meant that even leisure-sports were based on actions orchestrated from the center but it proved to be effective only in competitive sports.

2. Success no matter at which costs, which has meant hard training from the early childhood without sufficient medical control.

3. Gap between competitive sports and mass sports, which followed from prefering and supporting competitive sport, which strengthened the legitimacy of the political system and seemed to improve the efficiency of internal and international politics.

The legitimating role made competitive sports unpopular during the last decade, in the phase of political "softening". The spread of doping has further devalued world records in the eyes of the public. Uninhibited striving to reach results, privileges given to leading sportsmen have greatly reduced the respect people had to competitive sports.

Let us see what the structure and function of Hungarian sport science look like.

The Committee for Sports Psychology was founded in 1964 as an integrated body of the Hungarian Association of Sportsscience, which served as a counselling body to the Ministry of Sport and Physical Education.

Since the political changes in Hungary, structure and function of sportssciences have undergone changes towards democracy, too. The present situation can be characterised by the role of Parliament, by its legislative function. In 1992 Hungarian Parliament will discuss and probably issue a sports law, which has to contain guarantees for the development of sport sciences. Since the political changes of 1990 nongovernemental character of direction has been stronger in all spheres of the Hungarian Sport, including sport science.

What are the main fields of activities of sports psychologists?

We usually organise a yearly Working-Session, where we try to survey all the area of sport psychology and we have discussions about the directions and tasks. Some of the outstanding issues are:

- Development of personality of boys and girls from 6-14 years through physical education and sports.
- Psychology of training of teachers and coaches.
- Mental-hygienic care of elite athletes, means and methods.
- Ethical aspects of cooperation of coaches and psychologists.

Our Committee for Sports Psychology suggests the role and task of the psychologists:

- to give assistance to the coach and teacher when planning and acting,
- to give assistance to the athletes and school boys and girls in overcoming problems of personal and interpersonal character,
- to give assistance to the researchers as far as issues of sport psychology are concerned.

- to give assistance to the spectator of sportcompetitions and matches to develop, to enhance psychic culture.

We firmly hope that the role and the influence of psychology has an increasing character, so we are facing fascinating tasks.

THE HUMANITARIAN PROBLEMS OF SPORT AND PSYCHOLOGY

A.D. GANUYSHKIN AND M. PRISTAVKINA, RUSSIA

During many years the stagnant stereotypes, the dogmatic notions about the personality of the "Soviet athlete", his "special" moral and ideological image prevailed in Soviet sport psychology. Such point of view have brought to the crisis of psychological study of the real (not imaginary, mythical) modern human-being and the athlete, naturally, too.

The understanding that this way doesn't lead anywhere came later. At present, the Soviet sport psychology has another attitude to the ideas of M. Bouet about "antipsychology" in sport, which were expressed him at the World Psychological Congress in Praha (1977). Now we can say: M. Bouet was right in the main.

But sport science avoids the "dark side" of the medal yet. Last time, the years of the active aspiration of our society for catharsis, the problem of top sport vices is elaborated more widely by sport journalists, coachs, ex-champions, etc.

It must be admitted that this problem is working out sufficiently profoundly and many-sidedly. The wide range of the main phenomena of "antisport" is described. The extensive factual material is published. The accumulation of new facts has brought about a refinement of some earlier views and concepts.

The lack of attention to the humanitarian problems of sport must be considered as the shortcoming of the modern sport psychology. The humane Olympic Idea and P. de Coubertin's slogans, which are called up to the harmony of physical and spiritual, remained out of sport psychologists' field of vision. By our mind, sport psychology develops only as an effective technological discipline. It approximates to achievement of top results and mobiliation of athletes' latent reserves by means of psychoregulation.

In our study humanitarian problems word out, to regret, only in the negative aspects and concern only such concepts as "sport" and "antisport". We undertook the attempt to systematize the "antisport" phenomena from a position of sport psychology. "antisport" - it is the term, which means a *nonhumane* cultivation of sport.

What Are the Main Phenomena of "Antisport"?

Traditionally we say, that the world of sport is beautiful and wonderful. It has

large possibilities for the humane influence to physical and spiritual abilities of people. But this is true only for sport for all, sport for health. In the competitive sport this is a knotty problem. The top competitive sport is insufficient humane. It is typical for sport throughout the world. But the Soviet sport has it's own specific.

The personality in the top sport doesn't develop synonimous. It is a fact that the influence of sport to the personality is not only positive. It is a fact that in the modern top sport the athlete's energies direct to the decision of purely pragmatic tasks - the victory (just victory is considered by society as the aim of the sport), high results and records. Just them are stimulated not only morally, but and financially, too. Only this motivation of athletes is cultivated by media, coachs, sport bureaucrats and, sometimes, by political leaders. Therefore, athletes aspire to victory any price.

They use doping and anabolics; get hard injuries and mutilations; break moral standards and principles; show coarseness, cruelty, dishonesty, egoism, aggressiveness, etc.

Some special experiments (Muzafar & Sheriff, 1953; Caplow, 1964; Feshbach, 1971; Cratty, 1978) show that the competitive sport formes the athlete's aggressiveness. Many kinds of sport even demand it from athletes.

When aimed to the utilitarian results with high intensity, top sport is a specific mode of living. It is characterized by the hard regulation of athletes' life, limitation of athletes' freedom, etc. Such regimen has a negative influence on the moral, spiritual and cultural image of human-being. Not everybody can endure this regimen without prejudice for his psychic. Sometimes personality is deformed. Doctor F. Süle from Hungary said at one of the first workshops of the Congress about personal psychological problems of many top athletes, which are concerned with the peculiarities of top sport.

Brutal system of selection in top sport and sport hierarchy promote the appearance of "stars" (which are sure of their exclusiveness) and "outcasts" (which regard themselves worthless). It comes to psychological isolation of people, instead of their integration. Thus, sport, from the activity which must unite people, transforms to it's own opposition - "antisport".

Tendencies of "antisport" have penetrated to children's sport, too. The nonhumane training methods maimed children physically and spiritually; the rude, cruel treatment of coachs; the life without family and parents; the formal education; the limited possibilities of cultural and intellectual development; the untimely expulsion from sport school or sport team make top sport the "provider" of little education and people badly prepared to real life.

The cultivation of a specific motivation, which draw people into sport because it gives the possibilities to make much money, to recieve material wealth, to become

famous, to enhance the own prestige, to show aggressiveness, cruelty, force, helps to transform sport into "antisport". There are considerably less people who are interested in the beauty, culture, moral of sport, the joy of creation, people contacts, humane regard for one another, the possibilities of harmonious development and realization of another humane values.

The superfluous keenness on the physical development to the prejudice of the spiritual development of human-being is one of the "pathogenic" agents of "antisport". It is not typical for all kinds of sports in the same measure, but its effect is appreciable. In the end, not only intellectual, but moral and spiritual degradation of personality are possible.

The problem of the life crisises of ex-champions deserves special attention. All the negative features of top sport, which have antihumane character, reflect in this problem like in a mirror. Profound disappointment by nonachieved aim and result, by missed victory gives rise to doubt in the self-value, frustration, anxiety and irritability. These feelings become profounder if the athlete's career has a regrettable end. The real life tragedies accompanied by worsening of health are typical not only for top athletes, but to the middle ones, too. The successfulness of crisis overcoming might be the index of personality and society ripeness.

We must not forget that an athlete is not a sole participant of sport activity. And therefore the "antisport" influence is considerably wider. Coachs, judges and spectators are included in "antisport", too.

The nonhumane cultivation of sport has a negative influence on the moral, spiritual and cultural content of coach's personality. At the same time, coaches are sometimes active "creators of antisport". One of the reasons of it might be found in the system of physical education in the Soviet Union. Students are educated mainly biological. They are ready to work with the body of athletes, but not with their personalities.

Besides that most coachs have been athletes in their past. And they already have certain personality deformations, for example, aggressiveness and superfluous self-confidence. These features become the hindrances to success in pedagogical profession.

"Antisport" tendencies consist of the strong, authoritarian style of coach's activity (with coarseness, biting irony, contumely, humiliation of athletes dignity); in the absence of the warm, humane regards for colleagues and pupils; in suspicious jealousy and envy of the successes of colleagues; in the use of antihumane training methods; in the use of an athlete as a mean to achieve coach's own utilitarian aims; in the indifference to the postsport career of athletes, etc.

Judges are included to the sphere of "antisport", too. They assume a nonobjective and sometimes dishonest judging; the juggling with the competitive results; the

participation in the underground totalizators; the bribe for guaranteed victory; the agreements with athletes and coachs. It comes to moral deformation and degradation of personality inevitably.

More often sport competitions wake up not only profound humane feelings of spectators, but their brue instincts, too. Those instincts separate them and lead to the real "war without weapon", and, sometimes, with it. Walters (1966) shows that watching for aggressive behaviour of athletes intensifies the aggressive behavior of spectators.

No by chance so many countries have a problem with the wave of violence, coarseness, aggressiveness and vandalism in the stadiums; with hatred against athletes and spectators from "opposition"; with the intensification of sport-nationalistic feelings; with bloody battles between spectators and with the pogroms during and after football and hockey matchs. These negative occurrences became for many teenagers the main way of selfrealization. It is dangerously, because their personalities are formed in the sphere of destructive activity, but not in the sphere of creative one. The human-being becomes included in antihumane, self-destructive situations and relationships.

Thus, in our opinion, the modern top sport hardly has a high humane potential. He has very noble aims, but they are realized frequently by antihumane means and ways.

Can we overcome "antisport"? It seems to us that it is possible by the following ways:

1) to popularize sport for all, sport for health as an alternative of top sport;

2) to develop the "Fair Play" movement in the children`s and in the top sport;

3) to humanize the system of coach's education; we must prepare them for working with the human-being, with the original personality, but not only with "alive mechanism";

4) to change the system of values in top sport. The highest price must have the victory which is achieved in a situation of maximal uncertainty. Many problems of "antisport" are concerned with the preliminary guarantee of the victory;

5) to change the system of athlete's regards. He must interpret his own victory as the inevitable result of the concrete sport situation and not as the demonstration of his superiority over other people;

6) it is necessary to limit children's participation in the top sport.

The problem of the sport activity humanization is actual. The top sport must not be

the hindrance for forming of the socially adapted, democratic and materially secure person.

Psychology must be used as an important factor of the sport humanizsation. Sport psychologists with their professional arsenal can help to transform top sport into a civilized activity. But, first of all, sport psychology must transform itself. It certainly unites with sport ethics. Psychological preparation must reform into moral-psychological preparation and include the moral education of athletes. Psychological service of sport teams must become a moral-psychological service.

In our opinion, the main idea of a sport psychologist's work must be: the victory of an athlete, team and coach only by human means, not by any price.

GRAND UNIFICATION PERSPECTIVE OF PSYCHOLOGY OUTLINED ON SPORTS PSYCHOLOGY

REINHARD MÜNZERT, GERMANY

Towards Integration of Psychology?

The domain of sports offers an excellent testing ground for the relevance of psychological theories. It also appears to be a good paradigm for demonstrating how useful a unification of psychology could be.

Thirty years after the (re-)turn to cognition, psychology could enter a new phase in its scientific evolution - the integration and unification of its most important forces.

Several mainstream approaches coexist in contemporary psychology:

- cognitive and action psychology
- (neo-) behaviorism
- humanistic psychology
- psychoanalysis.

These schools of thought have developed rather diverse images of man, areas of research, methods, and theories. Up to now, there is no comprehensive conception which combines the essential aspects of the important positions. The same applies to sports psychology.

Nevertheless, it seems possible to connect their relevant features to a unified concept of man and his/her motivations, cognitions, emotions, behavior and actions. All the important theories, taken together might result in a more appropriate foundation for understanding human life, and could provide an integral framework for theoretical and applied psychology and sports psychology.

Sports as an Object of Psychological Study

Human experience and action take place in sports in an intensive, concentrated way. Joy, well-being and euphoria exist next to frustration, depression and fear. Social-mindedness and harmony oppose fighting spirit and aggression. Motivation and information processing occur on conscious as well as unconscious levels. There are planned strategic and tactical actions, creativity, impulsive or routine

behavior, fairplay or the desire to win at any cost (sometimes going beyond the rules of the sport).

It can be demonstrated that each of psychology's main approaches has its assets in special fields and in the interpretation of certain phenomena.

Thus, cognitive and action psychology shows a huge descriptive and explanatory power with respect to: Sporting activity as information processing as well as planned, goal-oriented action; conscious and rational selection of strategies and tactics; planned and systematic training and preparation for events; long-term career planning in sports; interaction of cognitive and emotional processes in sports.

Behaviorism is particularly concerned with:

Inciting and influencing responses in sports through stimuli and complex surroundings, such as a start signal, a referee's whistle, spectators; motivation for and continuation of sporting activities through behavioral consequences, for example financial rewards and travelling.

Humanistic psychology is occupied with:

Discovery and active realization of one's potential; personal growth and self-actualization through sports; gratification of emotional and social needs; hierarchy of needs; flow-experiences.

Several phenomena can be interpreted in psychoanalytic terms:

Acting out unconscious motives and desires; gain of pleasure through sports; aggression; masochism; irrational behavior; inner conflicts; defense mechanisms; identification with and imitation of sports idols; consideration and disregard of extraneous or own norms; ambivalence concerning sports or opponents; implications of early experiences in life.

If evaluated individually, none of the main approaches alone can sufficiently handle the many facets of man and all the psychic or psychological processes occurring in sports.

Grand Unification Perspective

Fortunately, the different psychological views of human nature are rather complementary and compatible. In my opinion, the conditions for a unifying concept are favorable. There is no doubt that each of psychology's main schools has already established detailed single theories and achieved valuable results which capture certain aspects of human life better than competing positions. On this basis, a unification of the only seemingly opposite approaches appears quite feasible.

Therefore, an integrative initiative was started (Munzert, 1988, 1991) proposing that each theory's contributions be taken into account because they supplement and enhance each other: The Grand Unification Perspective of Psychology. These integrative efforts shall finally lead to a coherent and encompassing theory that serves as the basis for analyzing, describing and explaining all psychological processes (Grand Unification Theory of Psychology or GUTPsych; see Figure 1).

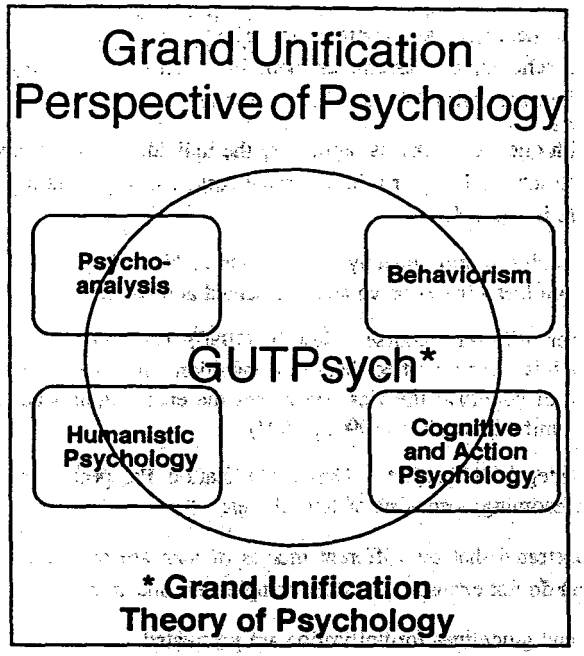

Figure 1. Grand Unification Perspective of Psychology.

My first step towards integration was taken in an outlook at the conclusion of my dissertation (Munzert, 1983) where I suggested that the main streams of psychology should support and complement each other in order to reach progress.

Chess was the first example to demonstrate how useful a combination of psychoanalysis, behaviorism, humanistic psychology as well as cognitive and action psychology could be for a scientific understanding of certain phenomena (Munzert, 1984, 1989, 1990).

An important work by Schmidt (1985) brought to light the many similarities and common features which the main psychological images of man possess besides

their differences. Schmidt confirms the possibility to integrate approaches which had hitherto been deemed incompatible.

Ways to Integration and Phases of Unification

As I see it, there are at least two different ways towards integration and unification:

a) Selecting the necessary and appropriate insights, concepts and major results of the various schools, one assembles them like well-fitted building blocks to a solid building, according to a certain construction plan.

b) Starting with one theory that is familiar to the individual scientist and which can provide a structured basis or a broad framework, the important aspects of other concepts are integrated.

The latter possibility approximately corresponds to Nitsch's proposal (1986) of a programmatic outline - based on an action-oriented approach.

Using a rather different course, Newell (1990) has already put forward a significant candidate for a unified theory of cognition which deals exclusively with the integration of cognitive theories. He makes the encouraging statement: "There must be many unified theories" (1990, p. 504).

The current integrative project - Grand Unification Perspective of Psychology (Munzert, forthcoming) - consists of four phases:

1. It is demonstrated that the different images of man are each correct in certain respects and do not exclude but rather complement one another.
2. Principles and guidelines for unification are postulated.
3. A selection of necessary and expedient elements for a Grand Unification is made from the main approaches according to certain criteria (this means, in fact, the intricate task of separating the essential and proven from the false and outdated).
4. An account is given of the underlying processes and general principles to which all observed phenomena can be traced.

GUTPsych, Connectionism and Chaos Theory

The strive towards a unification of theoretical concepts in psychology as well as sports psychology will be facilitated by recent developments in cognitive science,

neuroscience and connectionism (such as the parallel distributed processing approach or PDP; cf. the standard work by Rumelhart, McClelland and the PDP Research Group, 1986; Rumelhart, 1989).

Deviating from conventional PDP conceptions, it appears possible to use neural network models for basic processes of motivation, emotion, planning and action, etc. PDP approaches also seem to be appropriate with respect to new accounts of fundamental processes and concepts of psychoanalysis.

Furthermore, insights and metaphors from chaos theory are considered, for example attractors, rapid state changes, and self-organization (e.g. Ruelle, 1991).

All of the above is supported by examples from sports which prove the fruitfulness of the undertaken steps (for instance by providing a better comprehension of the personalities and lives of certain sportsmen like Boris Becker or Garry Kasparov).

In order to promote Grand Unification from perspective to realization, psychologists and scientists are needed who are willing and able to think and act within three or four different theoretical frameworks simultaneously and therefore have a broader understanding and more possibilities for action. This might enable the divided forces of psychology to become a unified science.

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SPORT PSYCHOLOGY IN THE NETHERLANDS: READY TO GO?

AD DUDINK AND KAREN HAMERLYNCK, THE NETHERLANDS

This paper considers the development of sport psychology in The Netherlands. As contrasted with many other European countries the organization of sport psychologists took a long time. What factors can explain this delay? In order to answer this question the first part turns to the history, and the second part refers to empirical data of the current state. The last part deals with an outstanding dilemma in the field of sport psychology: how to overcome the gap between theory and practice?

History

Why do we need a new subdiscipline in psychology and what do sport psychologists do? According to LeUnes & Nation (1989) at least six factors have contributed to the evolution of a new profession: 1. The pursuit of excellence: to perform at higher levels performance enhancement techniques are drawn from psychology; 2. Sport as a political tool: sport psychologists are increasingly being asked by national governing bodies to assist in the development of elite athletes; 3. High salaries in sport: superstar athletes ask psychologists to assist them in their search for excellence; 4. Recognition gained from sport; 5. Spectator interest; and 6. The fitness movement.

With respect to the applied professional acitivities Nideffer, DuFresne, Nesvig, and Selder (1980) mention the following functions: 1. To develop performance improvement programmes; 2. To use psychological assessment techniques; 3. To improve communication between athletes and coaches; 4. To provide crisis intervention services; 5. To provide consultative and grogramme development services; 6. To function as a therapist or clinical psychologist.

The International Society for Sport Psychology (ISSP) was formed as a forum for sport psychologists all over the world. The initiative of Antonelli in 1965 stimulated the discussion in different countries and resulted in the establishment of sport societies in different parts of the world (Fujita, 1987; Ikulayo, 1990). Since 1969 European organizations are represented by the FEPSAC.

In spite of all those organizations, national societies of psychology have been slow to welcome this newly developing subfield into their organization, since many would-be sport psychologists do not have the kind of formal training in academic

psychology that would make their membership of such societies acceptable (Bakker, Whiting & Van der Brug, 1990). There are changes to be expected, for instance the American Psychological Association (APA) formed the Division of Exercise and Sport Psychology in 1987. In the same period the Insitute for Psychology in The Netherlands promoted a national organization for sport psychologists. The national society (VSPN) was founded in 1989 through the leadership of Frank Bakker.

Comparing the Dutch situation with other European countries, the development of sport psychology in The Netherlands was not very successful. Sport psychology was a neglected academic area. To understand this retarded development one can come up with different explanations. Hypothesized factors that hindered the outgrow are:

1. The general attitude to psychology. Most people in The Netherlands have a very restricted view on the domain of psychology. There are no psychology courses in secundary education.

2. The general attitude to sport psychology by coaches and athletes. There is a lack of acknowledgement by the athletes for the psychological aspects of sports (mental movements are not perceptible!).

3. In the media sport psychologists are suspected. Although many sport journalists report psychological reasons for winning or losing a competition, they are sceptical and suspicious to the statements of sport psychologists.

4. The general attitude of the people to elite athletes. A stereotype of the people in The Netherlands is, that they don't have, and don't want heroes in outstanding performances in sports, art, music, or politics.

5. Special provisions for top-level athletes have low priorities. If you want a job as a sport psychologist, there are no institutions to apply to.

6. Scientific level of Physical Education. Colleges for teachers in Physical Education are Higher Vocational Schools. Research tradition in these institutes is virtually nonexistent.

7. Lack of interest in the Faculties of Psychology. In 1988 Avis wrote an internal report about the state of the art. He noticed a lack of involvement from mainstream psychology: no fundamental sport psychology research and no graduate courses.

According to Silva (1989) without guidance and professional standards, the application of sportpsychology is suspectible to regressive movements that may hinder advancement or compromise the quality of services extended to consumers. Therefore a primary purpose of the VSPN is to establish a scientific forum for

sport psycholgists, and academic training programmes have the highest priority. Like most other organizations representing sport psychologists a journal is published, dedicated to furthering the knowledge base of the members.

Characteristics of Sport Psychologists

To map out the characteristics of sport psychologists in The Netherlands, a survey was conducted by the second author. Six well known sports psychologists were interviewed. The questions referred to (1) background in sports and education, (2) main professional acitivites, (3) opinion about different functions, (4) general questions about sport psychology in The Netherlands, and (5) training topics. Based on those interviews a questionnaire was constructed and was sent to 12 senior members. Ten of them contributed to this study. In this paper we will present part of the results.

With respect to the educational background, all respondents reported psychology as their major field of study. Most of the members finished their study either in a Faculty of Psychology, or in the Department of Psychology in the Faculty of Human Movement Sciences. Compared to many other countries in the world their training background is highly similar, because they are actually trained as psychologists, and therefore territorial wars within the VSPN are unlikely.

All respondents were familiar with the world of sport, nine of them played competition on a national or international level. Five respondents were coaches themselves. Generally speaking one can say that all sport psychologists have an experiental background in sports. Most sport psychologists would agree that a strong understanding of sport, exercise or health is valuable for effective professional intervention. This background can best be gained through direct participation in sports. It will enhance the professional credibility, empathy, and communication and it will help to understand the problems of the athletes and to choose appropriate interventions (Taylor, 1991).

None of the respondents had a full time job as sport psychologist. There appears to be a limited number of available positions in this field, so their main professional activities are outside the field of sports. The respondents ranked the importance of six professional functions mentioned before (Table 1). They also ranked their preferences for training issues (Table 2).

As can be seen from Table 1, 'training coaches' had the highest rank and clinical issues had the lowest rank. Therapeutic services were only stressed by respondents with a background as a clinical psychologist.

Table 1. Ranking professional functions of sport psychologists.

	M	SD
Training Coaches	1.4	1.0
Performance Improvement	1.6	0.8
Communication Improvement	1.6	1.9
Assessment Techniques	1.9	1.1
Crisis Intervention	2.8	1.2
Therapeutic Services	2.8	1.4

Means (M) and standard deviation scores (SD) for 16 sport psychologists. Ranked by scores on a 5 point Likert response format (1 = very important, 5 = very unimportant)

The results in Table 2 demonstrate again the disagreement about the relevance of psychotherapeutic services. The priority for teaching coaches is realistic, because the educational setting for training coaches is a target market for jobs in the near future. Sport psychologist are well aware that most athletes cannot afford individual mental assistance.

Table 2. Ranking topics for training sport psychologists.

	M	SD
Teaching Coaches	1.2	0.4
Fittness & Health	1.5	0.2
Concentration Training	1.5	0.7
Stress Management	1.6	1.0
Imagery Training	1.9	1.0
Sport Psychological Tests	2.3	1.6
Sport & Personality	2.5	1.3
Sport & Psychotherapy	2.5	1.4

Means (M) and standard deviation scores (SD) for 10 senior members sport psychologists. Ranked by scores on a 5 point Likert response format (1 = very important, 5 = very unimportant)

Gap Between Science and Practice

Nowadays a wide variety of popular books and manuals are dealing with performance enhancement, and these draw on a diverse range of sources, often beyond psychology. A lot of books are offering sport psychological training to todays consumer athletes. In most books of this genre, there is the lack of strong theoretical empirical foundation. Annecdotal evidence supports the claims for the

'winning moods'; 'peak performances' and 'flow states' instead of well controlled experimental studies.

Classic areas of mental training include stress management, relaxation, concentration, positive thinking, self talk, goal-setting, self-regulation, mental rehearsal, imagery training, concentration and energy control. The balance between theory and application seems unhealthy. For instance many books do suggest that research findings can justify a relationship between sport performance and the powers of the hemispheres of the brain. Although this psychoneural research is still in its infancy some mental training programmes are based on hemispherical relationships. Book reviewers do often criticize the cause-effect relationships in those publications (Burton, 1989; Greendorfer, 1989; Anderson, 1990; Ballinger, 1990). The lack of source documentation makes it very difficult to verify the information presented.

> A few ultraconservative research sport psychologists say we do not yet have the definitive scientific evidence needed to be offering advice to coaches about how athletes can acquire psychological skills...but we have considerable knowledge that can be helpful. (Martens, 1987, p.xi)

There are pessimistic and optimistic points of views. May be it is optimistic to see a growing awareness by coaches and athletes of the potential benefits to be derived from sport psychology. In The Netherlands the National Sport Federation (NSF) and the National Olympic Comittee (NOC) wish closer contacts with sport psychologists. A realistic perspective is that we in The Netherlands are ready to go, but don't rush! Silva (1989) predicts that the most significant advancements in the development of sport psychology will take place during the next decade.

> The market is clearly there, but it is important that the goods on offer are guine and are not past their sell-by date, and the task of quality control should fall not only to sport science but to the discipline of psychology as a whole. (Kremer & Scully, 1991, p.148)

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SPORT PSYCHOLOGY IN SPAIN: A REALITY

SALOME DE DIEGO AND CRISTINA SAGREDO, SPAIN

We are going to introduce a study about Sport Psychology in Spain, sponsored out by the Spanish Olympic Committee and carried by SERSIDE, a Consulting Firm that works within the frame of Sport Psychology.

This idea has been developing during the last year (1990-1991) due to an interest in the supply and demand of Sport Psychology in Spain.

The methodology we have followed comprises, in the first place, the design of different questionnaires according to whom they are addressed to; secondly, a mailing of those questionnaires as well as the accomplishment of interviews in order to collect as much side information as possible; and finally, the quantitative and qualitative analysis of the registered data.

The objectives of the research are to know the main features of sport psychologists population in Spain, the university training in sport psychology, the demand of the Olympic Federations, the participation of the Official College of Psychologists, the associationism in sport psychology, and to create a technical file of the sport psychologists in Spain.

Data From Centers Related to Sports

Olympic Federations: We have studied 23 of the total 25. Only 7 federations work directly with coaches and athletes; 6 of them in training courses for coaches and 5 of them in concentrations pre-event.

National Institutes on Physical Education: The 8 institutes we have studied of the total 9 have, at least, two university courses in sport psychology.

Data From Centers Related to Psychology

Universities/Faculties of Psychology: We have studied 15 of the total 20. 7 of them have an specific training in sport psychology (mainly courses and workshops, university course, doctorate and master).

Official College of Psychologists: We have studied 7 of the total 15 and in 5 of them there are sport psychology commission which offer information and some courses.

Associations

The Spanish Federation of the Sport Psychology and the Physical Activity Associations - FEAPAFD - is formed by 11 associations with 344 members (July 1991).

40.8% of the population has collaborated in the study (participating sample 163). The percentages in Figure 1 show the participation in each autonomous community in the Spanish State concerning the total participation.

The independent group is formed by a group of sport psychologists who don't belong to any association, in spite of the fact that they work in this field.

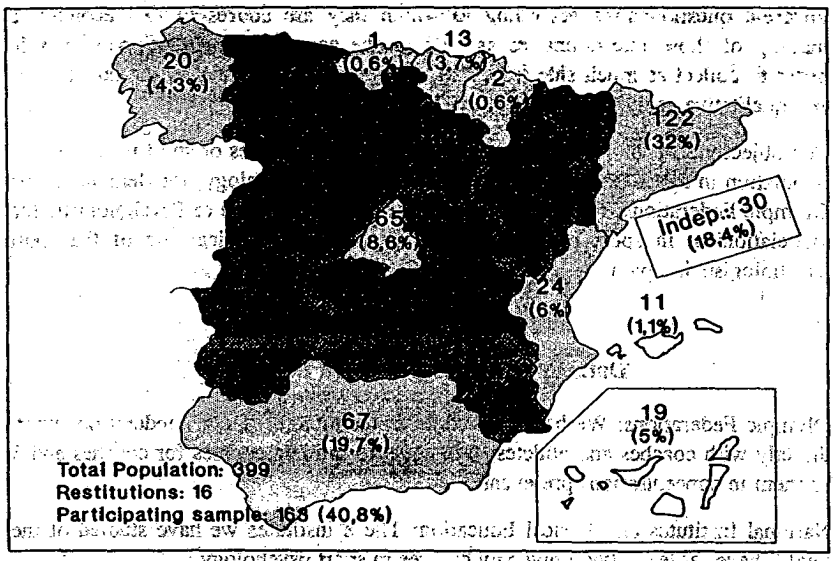

Figure 1. General information: Participation.

Contents of the sport psychologists' questionnaire:

- General information
- University education
- Specific training in sport psychology
- Work as a sport psychologist
- Adaptation of sport psychology studies to work needs
- Real work conditions
- Associationism

Data of the Sport Psychologists

Specific training in sport psychology: the heaviest burden lies on the universities of psychology, which offer all kind of training. It is also remarkable that courses/workshops together with the self taught are the most frequent ways of training in sport psychology.

Work as a sport psychologist: Only 16% of the sport psychologists checked out have an exclusive dedication. The 84% left combine their work as sport psychologists with clinical psychology and physical education and coaching.

As for the work standing, the sport psychologists work most frequently on their own in private consultings as well as in any departments of pychology at the uiversities. Community administrations and sport federations also offer other kind of support for the development of sport psychologists' work.

The great majority of sport psychologists work without any kind of contract. Those who have a permanent contract develop their work in centers sponsored either by the community or the central administration.

A 40% of the sport psychologists checked out receive some kind of remuneration for their work, although almost the 70% of these professionals consider inadequate their remuneration.

As for the population to which their work is directed, the average sport psychologist works mainly with coaches and sportmen (Figure 2). Athletism, basketball, cycling, handball and football are the five sports with which they work most frequently in counseling and training in sport psychology. The cognitive-conductual modification is the main psychological orientation when mental training is carried out.

Refering to the sport practice, most of the sport psychologists work on "high competition" level (Figure 3). The problems they face most frequently are lack of attention and high levels of anxiety.

Real work conditions: Near half of the sample considers that their work conditions are bad (Figure 4). We have found the importance of this question thanks to the great reaction it had among the professionals checked out (a low percentage in no-answering this question, only a 4% of the sample), which suggest its analysis is an essential point in the development of sport psychology in Spain.

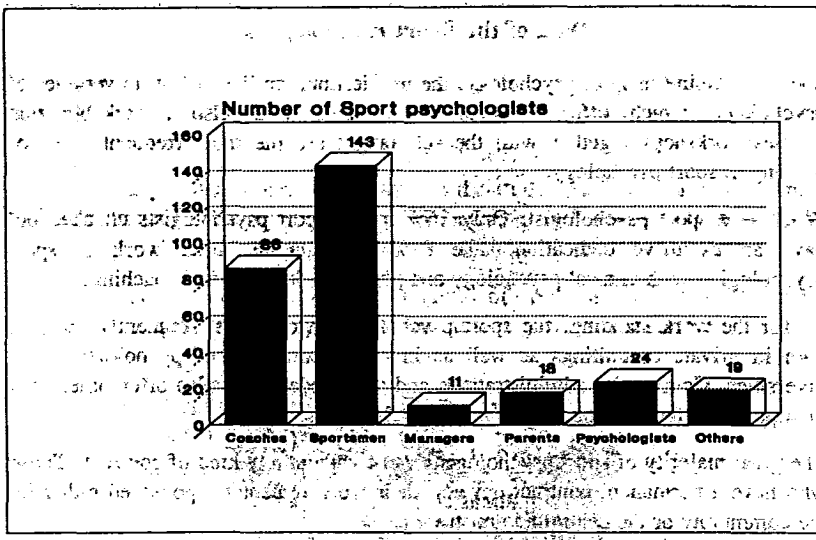

Figure 2. Population to which the work of sport psychologists is directed.

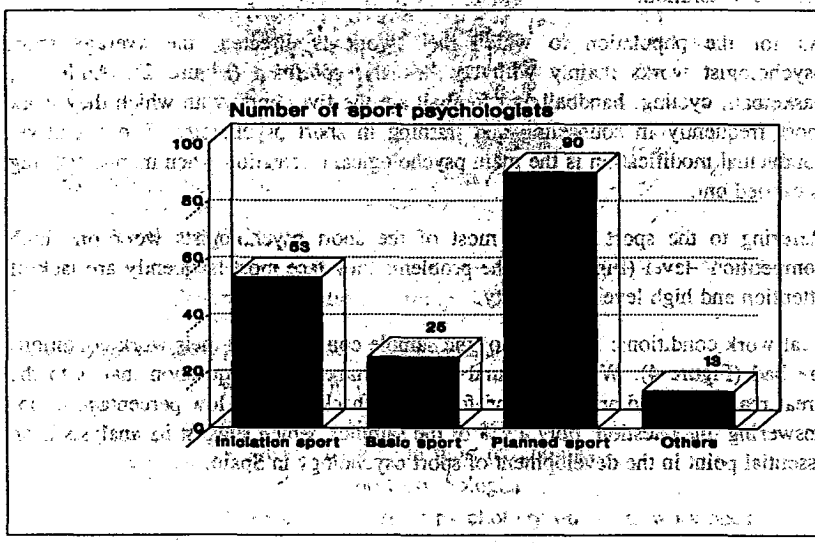

Figure 3. Sport Practice.

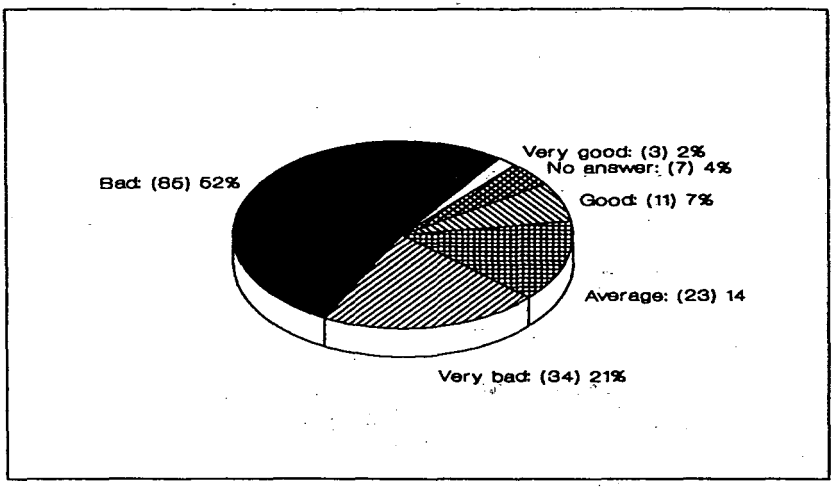

Figure 3. Real work conditions.

To finish the presentation of this study, we present the most important issues or items of it, the characteristics of the average Spanish sport psychologist (1991).

- Average age: 30-31
- Men - women: Even
- Licensed in psychology: 85%
- Specific training: Courses and self taught
- Without an exclusive dedication: 84%
- Work standing: Private consulting and university of psychology
- Without any remuneration: 60% (no contract)
- Their work is directed to coaches and sportsmen
- Sport practice: Planned sport (elite athletes)
- Type of intervention: Counseling and training courses
- Problems most frequently encountered: Attention and anxiety
- Publications: Articles
- Participation in congresses: Speakers in national congresses
- Little adaptation of sport psychology studies to work needs
- Bad work conditions

These data should only be the first stage; the main aspect of the question is to know what to do with them from now on, in order to really improve our profession...

Autorenregister · Author Index

Es sind hierbei alle vier Berichtsbände einbezogen. Fett gesetzte Ziffern verweisen auf den jeweiligen Berichtsband, Ziffern nach dem Doppelpunkt auf die erste Seite des Beitrages im vorliegenden Band.

All of the four volumes of the Proceedings are included. Bold numbers indicate the special volume, numbers following the colon indicate the first page of the contribution to the present volume.

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Bei der Frage nach psychologischen Grundlagen und Wirkungen sportlicher Betätigung spielen die Themen Motivation, Emotion und Stress traditionell eine zentrale Rolle in sportpsychologischer Forschung und Anwendung. Dieser erste Band des Berichts über den VIII. Europäischen Kongreß für Sportpsychologie gibt hierzu in 52 Beiträgen aus 20 Ländern einen differenzierten Einblick in den internationalen Forschungsstand.

Viele Beiträge werden dabei nicht nur für Sportpsychologen, sondern auch für andere Sportwissenschaftler, Psychologen und nicht zuletzt auch für Sportstudierende und Sportpraktiker interessant sein.

Referred to the question of psychological foundations and effects of sport activities the topics of motivation, emotion and stress traditionally play a central role in sport psychological research and application. 52 articles from 20 countries included in this first volume of the Proceedings of the VIIIth European Congress of Sport Psychology provide a substantial survey of the international state of the art.

Many of these contributions will not only be of high interest to sport psychologists but also to other sport scientists, psychologists and last but not least to students of sport sciences and physical education and sport practioneers, as well.

ACADEMIA VERLAG SANKT AUGUSTIN

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