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Fédération Européenne de Psychologie des Sports et des Activités Corporelles
European Federation of Sports Psychology

IXth EUROPEAN CONGRESS
ON
SPORT PSYCHOLOGY

BRUSSELS - 4/9 JULY 1995

PROCEEDINGS

Part II

Edited by Renée VANFRAECHEM - RAWAY
Yves VANDEN AUWEELE

Integrating laboratory
and
fields studies

BELGIAN FEDERATION OF SPORT PSYCHOLOGY
SOCIETE FRANCOPHONE DE PSYCHOLOGIE DU SPORT
VLAAMSE VERENIGING VOOR SPORTPSYCHOLOGIE

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SYMPOSIUM SESSION 2

S.2.1. Sport and Gender

S.2.2. Relationship between athletes coach parents

S.2.3. Psychology and Sport injury

S.2.1. SPORT AND GENDER

Chairperson : TARU LINTUNEN

SELF - PERCEPTIONS AND PHYSICAL FITNESS OF ACTIVE AND SEDENTARY ADOLESCENTS - A FOLLOW-UP STUDY

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Key words: Perceived physical competence, self-esteem, importance, change, selection

INTRODUCTION

Positive emotional and psychological benefits are commonly believed to result from physical exercise. Self-esteem has been identified as the variable with the greatest potential to reflect possible psychological benefit gained from regular exercise. There are principally two models dealing with the relationship between physical activity and psychological well-being - the change model and the selection model (Bakker, Whiting, & Brug, 1990; Cratty 1989). Firstly, it is possible that changes in the personality become apparent as a consequence of exercise. Sonstroem and Morgan (1989) have proposed a model for examining mechanisms of self-esteem change through exercise. They hypothesize that participation in sport may initially increase task specific feelings of self-efficacy. Increase in self-efficacy may generalize to perceptions of physical competence which in turn can increase more general self-esteem. Secondly, the selection model suggests that only those who already have a high perception of their physical abilities take up sport or persist in participation. In this connection both Harter's (1978) Model of Competence Motivation and Sonstroem's (1978) Psychological Model for Physical Activity predict that individuals (e.g. young athletes) who perceive themselves to be highly competent will persist longer at the activity in question.

To bolster the change and selection models, one must produce longitudinal data from the same participants. No long term follow-up research with several measurements studying changes in self-perceptions or selection effects has been done on this topic, nor has actual physical performance been taken into account at the same time as perceptions of physical competence also, the role that the degree of importance that subjects place in the physical domain plays in the development of self-esteem has largely been ignored. The aim of this study was to study the change and selection effects in self-perceptions and physical fitness in adolescence with the help of longitudinal research with several measurements. A second purpose was to examine gender differences in perceived fitness.

METHOD AND PROCEDURE

The self-perceptions and physical fitness of 88 adolescents were followed up during a three-year period (self-esteem) and a four-year period (all the other variables). The participants were divided into sedentary (15 boys, 20 girls), physically active (20 boys, 10 girls), and very active (15 boys, 8 girls) groups. Physical competence was measured by Lintunen's (1987; 1990; Lintunen, Leskinen, Oinonen, Salinto & Rahkila, in press) Perceived Physical Competence Scale, which yields scores on two subscales: perceived fitness and perceived appearance. Perceived importance of physical fitness and perceived importance of appearance were measured by a self-report questionnaire designed for this study. Self-esteem was assessed with Rosenberg's (1965) scale. The measures of physical fitness were handgrip strength (N), maximum oxygen uptake (l), and jumping power (W). MANOVA-models were used in the profile analysis. Gender differences were analyzed using one-way analysis of variance.

RESULTS

Self-Perceptions

Girls: At the first measurement at the age of 11 perceived fitness did not vary between the groups. During the follow-up the physically active and very active groups showed higher perceived fitness than the sedentary group [main effects of physical activity group ($p<.001$), time (n.s.), and group x time interaction (n.s). The active and very active girls had higher values of perceived fitness than the sedentary girls at age 12 ($p<.001$), 13 ($p<.01$), 14 ($p<.001$), and 15 ($p<.001$) but not at age 11 (n.s.)] (Figure 1).

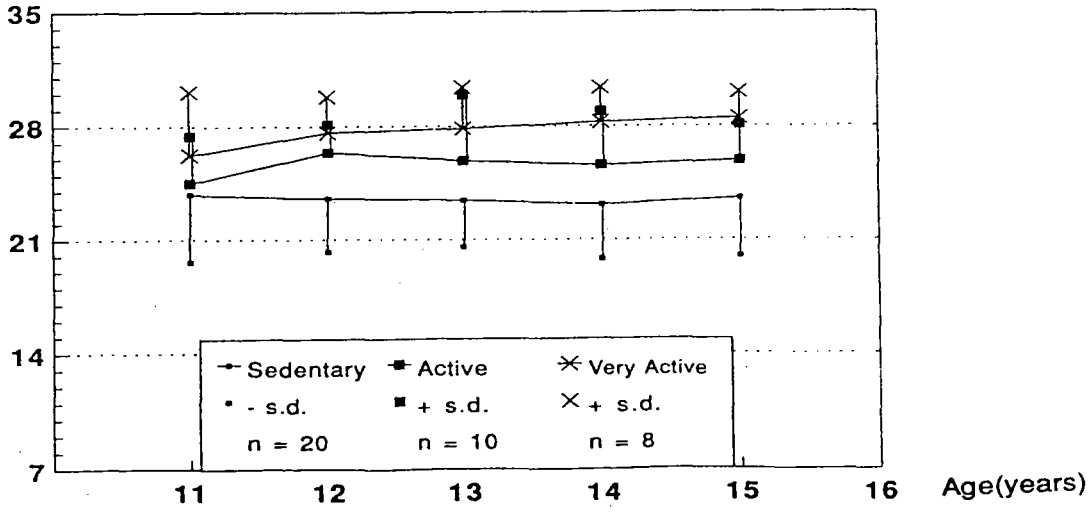

Fig. 1. Perceived fitness: Girls. Means, standard deviations, and changes.

Self-perceptions

The very active girls scored higher on the perceived importance of fitness than two less physically active groups [main effects of physical activity group ($p<.05$), time (n.s.), and group x time interaction (n.s). Both the sedentary and active girls had lower values than the very active girls at age 14 ($p<.05$ and $p<.01$, respectively) and 15 ($p<.01$ and $p<.01$, respectively)] (Figure 2). Self-esteem, perceived appearance or the perceived importance of appearance did not differ between the physical activity groups during the follow-up. There was no interaction between physical activity group and age in the variables studied.

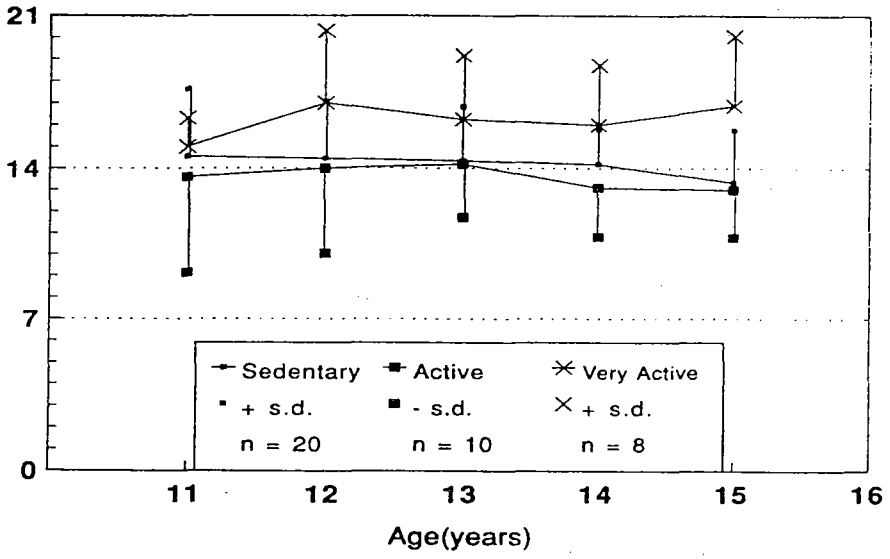

Fig. 2. The importance of physical fitness: Girls. Means, standard deviations, and changes.

Boys: Perceived fitness among the active and very active boys was higher than among the sedentary group both at the first measurement at age 11 and throughout the follow-up except at age 14 [main effects of physical activity group ($p<.05$), time ($p<.01$), and group x time interaction (n.s). The active and very active boys had higher values of perceived fitness than the sedentary boys at age 11 ($p<.05$), 12 ($p<.01$), 13 ($p<.01$), and 15 ($p<.05$) but not at age 14 (p=n.s.)] (Figure 3). Self-esteem, perceived appearance, the importance of fitness or the perceived importance of appearance did not differ between the physical activity groups. There was no interaction between physical activity group and age in the variables studied.

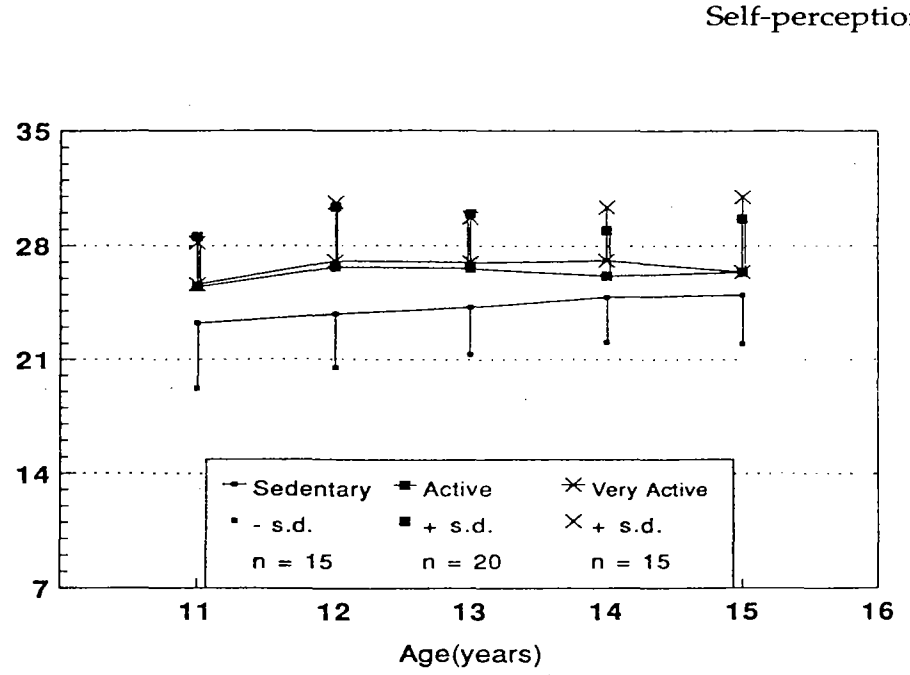

Fig. 3. Perceived fitness: Boys. Means, standard deviations, and changes.

Gender differences in perceived fitness: Perceived fitness did not differ between boys and girls who were at the same activity group, but more physically active groups had higher perceptions of their fitness than the less active groups of opposite sex at age 12 ($p \leq .001$), 13 ($p \leq .001$), 14 ($p \leq .001$) and 15 ($p \leq .001$) but not at age 11 (n.s.).

Fitness variables

Girls: Throughout the follow-up the sedentary and active girls showed lower handgrip strength, maximum oxygen consumption, and jumping power than the very active group (Figures 4,5, and 6). All three fitness variables increased in a similar way in the three activity groups. There was no interaction between physical activity group and age in the three variables [handgrip strength: Main effects of physical activity group ($p<.05$), time ($p<.001$), and group x time interaction (n.s). The sedentary and active girls had lower handgrip strength than the very active girls at age 11($p<.01$), 13 ($p<.05$), 14 ($p<.05$) and 15 ($p<.05$) but not at age 12 (n.s.). Maximum oxygen consumption: Main effects of physical activity group ($p<.01$), time ($p<.001$), and group x time interaction (n.s). The sedentary and active girls had lower maximum oxygen consumption than the very active girls at age 11($p<.01$), 12 ($p<.01$), 13 ($p<.01$), 14 ($p<.01$) and 15 ($p<.01$). Jumping power: Main effects

of physical activity group (p<.01), time (p<.001), and group x time interaction (n.s).The sedentary and active girls had lower maximum oxygen consumption than the very active girls at age 11(p<.01), 12 (p<.05), 13 (p<.01), 14 (p<.01) and 15 (p<.01).]

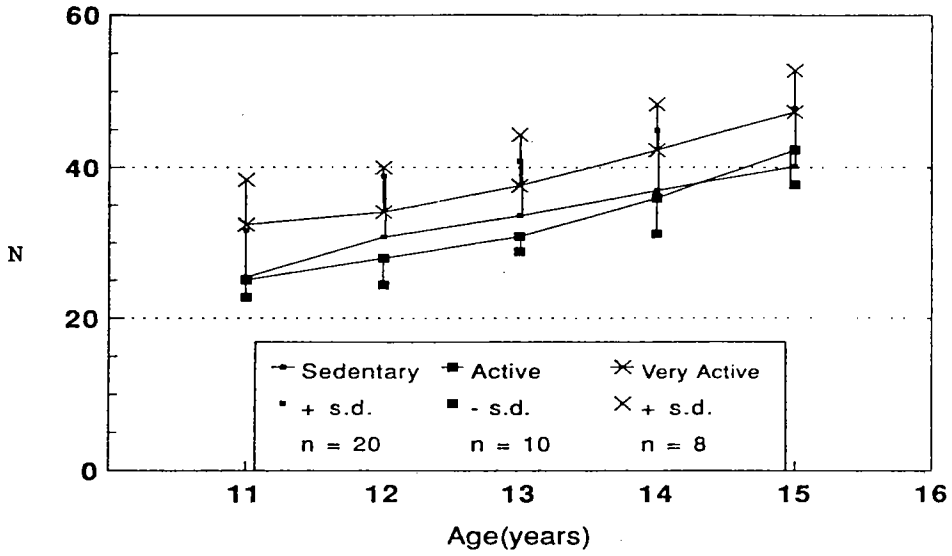

Figure 4. Handgrip strength: Girls. Means, standard deviations, and changes.

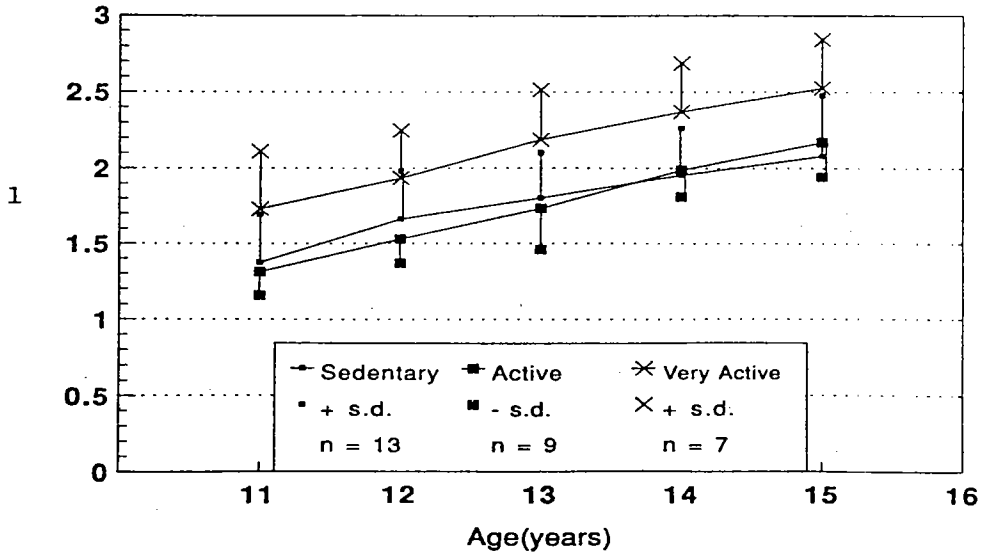

Figure 5. Maximum oxygen consumption: Girls. Means, standard deviations, and changes.

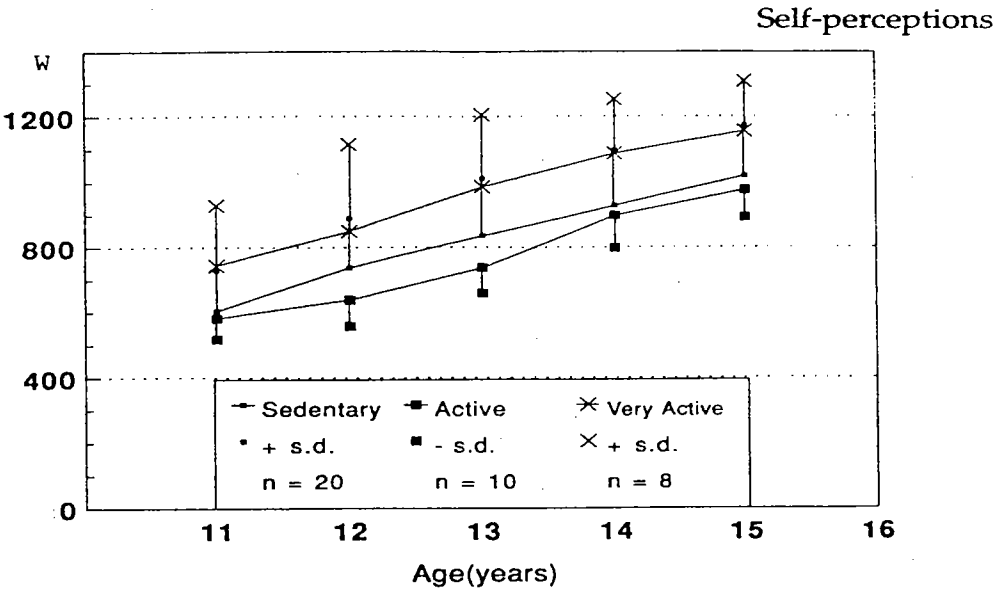

Figure 6. Jumping power: Girls. Means, standard deviations, and changes.

Boys: Throughout the follow-up the less physically active groups showed lower jumping power than the very active group [main effects of physical activity group ($p<.05$), time ($p<.001$), and group x time interaction (n.s). The sedentary and active boys had lower jumping power than the very active boys at age 11 ($p<.05$), 12 ($p<.01$), 13 ($p<.01$), 14 ($p<.05$) and 15 ($p<.05$)] (Figure 7). Handgrip strength and maximum oxygen consumption did not differ between the physical activity groups during the follow-up. All three fitness variables increased in a similar way in the three activity groups. There was no interaction between physical activity group and age in the three variables.

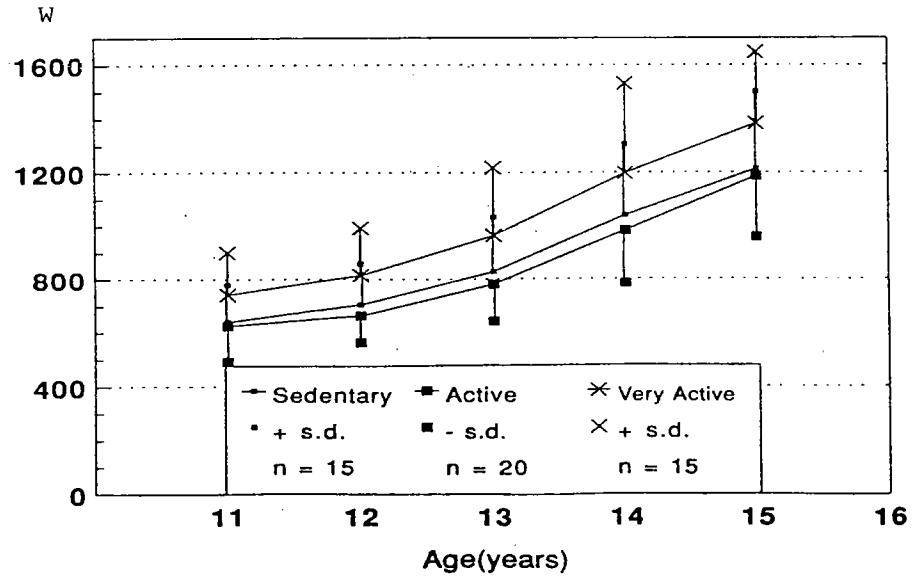

Figure 7. Jumping power: Boys. Means, standard deviations, and changes.

DISCUSSION AND CONCLUSIONS

The findings among the girls are in line with the change model and indicate that sport participation increased positive perception of fitness among the girls. However, increase in more general self-esteem did not follow from an increase in hierarchically lower level perceived fitness as suggested by Sonstroem and Morgan (1989), even though the very active girls valued fitness highly. The findings among the boys lend support to the selection model. We cannot say, however, whether the differences which already existed in perceived fitness at the beginning of the follow-up were due to selection or change as these boys had already been involved in organized sports for an average of two years before the beginning of the follow-up.

Physical fitness was lower among the active and sedentary groups than among the very active adolescents. Perceptions of fitness were, however, high both among the very active and active groups and lower only among the sedentary adolescents. It was concluded that even participation in exercise of relatively low frequency (3-4 hours / week) was enough to increase perceptions of fitness among the active adolescents, even though their actual fitness remained at the same level as that among the sedentary adolescents. Participation was enough to increase perceptions of fitness, actual fitness gains were not necessary among these adolescents.

These findings lend support to the selection effect in physical fitness, especially among the girls, such that those who were going to be very active during the four-year follow-up already had a high level of fitness at the age of 11 years. It is interesting to notice that there were no differences in the fitness profiles between the activity groups. The increase in the fitness of the very active children, who were training hard (mean 8-12 supervised hours / week) was the same as the increase among the active and sedentary groups. The vigorous nature of growth during adolescence propably masks the effects of exercise on fitness.

A second purpose of this study was to describe gender differences. Perceived fitness did not differ between boys and girls who were at the same activity group, but more physically active groups had higher perceptions of their fitness than the less active groups. Level of sport participation has not usually been considered or standardized in earlier studies that compare

boys and girls. Girls, on the average, are less physically active than boys (King & Coles, 1992) and thus may have shown lower perceived physical competence in most earlier studies (see Lintunen et al., in press). It was concluded that physical activity level is more important than gender as a determinant of perceived physical competence.

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STUDENTS' PERCEPTIONS OF GENDER-RELATED DIFFERENTIAL PATTERNS IN PHYSICAL EDUCATION

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KEY-WORDS

gender, differential patterns, climate, measurement, questionnaire development, teacher's treatment, students' perceptions

INTRODUCTION

Several authors (Dewar, 1990; Griffin, 1989) have argued that physical education contributes to the sex-role stereotyping. This argument seems true for many European countries (Kirk, 1990). In Greece, for example, team sport games dominate physical education curriculum (Greek Ministry of Education, 1990). Most team sport games are considered appropriate for males (Csizma, Wittig & Schurr, 1988) and research in coeducational physical education classes showed that boys dominate participation in that kind of games (Griffin, 1981).

Apart from context, the perceptions and behaviours of many physical education teachers contribute to the sex-role stereotyping and gender inequity in the gym. Griffin (1985) observed that physical educators had gender-biased perceptions of student behaviour. Dunbar and O'Sullivan (1986) and Macdonald (1990) found that teachers had more interactions with boys than with girls. Crowe (1977) reported that in the context of physical education both male and female teachers expected better performance from boys than from girls.

Today there are two studies (Macdonald, 1990; McBride, 1990) examining students' perceptions of teachers' treatment towards boys and girls. In the McBride (1990) study, although male teachers were classified as being gender typed, there were no differences between boys and girls in the perceptions of teachers' treatment.. Nevertheless, the Student Perception Inventory used in this study was not specifically designed to assess gender-related behaviours. Further, McBride (1990) published limited information regarding its' psychometric properties. Macdonald (1990) found that although most girls did not perceive boys as being favoured, almost half of them felt that teachers expected better performance from boys rather than form girls. Macdonal (1990) did not report how students perceptions were measured .

The present study is the first attempt to develop a reliable and valid questionnaire assessing students' perceptions of gender-related behaviours of physical education teachers. In essence, this is an instrument measuring one component of the class environment (Fraser, 1986). The best known teachers' differential behaviours are those implying support, severity, personal contact and control (Martinek, 1989). Another important behaviour is teachers' focus on students' learning because this affects students' motivation and achievement (Papaioannou, 1994).

In addition to teacher treatment, this instrument was designed to tap students' perceptions of the physical education lesson's outcome for boys and girls. The focus was on boys' and girls' achievement.. Hence, the present study examined the achievement-related behaviours of male and female students and the value of the lesson for boys and girls. The perceived value of the lesson was tested because research by Eccles (1985) showed that the instrumental value of the lesson (i.e., perceived usefulness of the lesson) and the intrinsic value of the lesson (i.e., interest in the lesson) determine students' achievement..

The activities followed by boys and girls in the physical education lesson were also considered. Nevertheless, as can be seen in the results section, the present study did not manage to develop a reliable factor suggesting perceived differential context for boys and girls.

Finally, this study examined sex differences in attitudes towards the lesson. Past results showed that there were no such differences (Papaioannou, 1992). Nevertheless, we wanted to explore whether students' perceptions of gender-related differential patterns correspond to gender differences in self-reports as well.

METHOD AND PROCEDURE

Sample

In April 1994, 205 Greek high school students (86 boys and 119 girls, age: 13 to 17 years old) participating in 12 coeducational physical education classes completed the questionnaires which is described below. These classes were taught by 4 male and 2 female physical education teachers (two classes by each teacher).

Questionnaires

Differential Class Climate in Physical Education for Boys and Girls Questionnaire (*DCCPEBGQ*)

Following an interview with 15 first-year University students and a review of the literature related to gender differences in physical education, teachers' expectations and class climate, seven major dimensions of the differential class climate for boys and girls were identified: differences in motivation between boys and girls,

differential focus of teachers on boys' and girls' learning, differential contact of teachers with boys and girls, differential support of teachers to boys and girls, differential severity of teachers with boys and girls, differential autonomy given to boys and girls and different skills and games followed by boys and girls. A pool of more than 100 items was developed and two experts evaluated the items' face validity with regard to whether they reflected one of the seven predetermined dimensions of the class climate. Based on experts' evaluation, the number of items was reduced to 65. Following the stem 'In the way the lesson is taught in this physical education class' subjects were requested to respond on the items (see Table 1), with 3 = much more the boys, 2 = the boys, 1 = rather the boys, 0 = equal for both sexes, and -3 = much more the girls.

Attitudes

The scales "interest in the physical education lesson" and "perceived usefulness of the physical education lesson" were employed. These scales were used in Greece by Papaioannou (1992; 1994). Both scales showed evidence of reliability and construct validity.

"Interest in the lesson" was constructed by the items "Generally, doing physical education in school is..." (1 = very boring, 7 = very interesting), "How much do you like the physical education lesson ?" (1 = not at all, 7 = very much so) and "Would you like doing more hours of physical education in school, if it was not at the expense of other lessons ?" (1 = I am very sure that I would like it, 7 = I am very sure that I would not like it). Perceived usefulness of the lesson comprised the items "For me, being good in the physical education lesson is..." (1 = extremely important, 7 = not important at all), "Generally, how useful is for you what you learn in the physical education lesson ?" and "After finishing the school, how useful do you think what you learn in the physical education lesson is going to be ?" (for both items, 1 = extremely useful, 7 = not useful at all).

RESULTS

Factor analysis and reliability

Principal components factor analysis was conducted on the 65-item questionnaire. After the initial factor analysis, only the factors reflecting the predetermined dimensions were kept. Moreover, the minimum loading used to identify items to factors was .40. Based on these criteria, 27 items remained. Principal components factor analysis with varimax rotation on this 27-item questionnaire produced four factors (see Table 1) suggesting gender-related differential motivational patterns (9 items), teacher's differential contact with boys and girls (6 items), teacher's differential severity with boys and girls (6 items) and differential choices given to boys and girls (6 items).

TABLE 1. Factor Analysis

	Factor				H^2
	1	2	3	4	
in the end, the lesson is more important for	.75				.60
exercise more	.70				.57
the lesson has higher value for	.67				.50
more interested in the lesson are	.66				.45
they like the lesson more	.64				.53
in the end, the lesson becomes more useful for	.62				.50
the skills and games are more familiar to	.55				.41
the lesson benefits more	.55				.36
the lesson is better fitted to	.54				.37
most of the time the teacher is with		.82			.69
the teacher is closer to		.79			.67
the teacher has more personal communication with		.73			.60
the teacher plays more with		..68			.57
the teacher speaks more with		.63			.48
the teacher watch more		.60			.46
the teacher is more severe with			.73		.60
the teacher scolds more for luck of effort			.73		.56
the teacher questions more the efforts of			.72		.53
the teacher makes feel that they are not doing well, more			.69		.50
the teacher makes feel that they are nor particularly good at skills and games, more			.68		.48
the teacher uses harder criticism to the			.60		.44
the teacher gives more opportunities to choose the skills and games that want				.83	.71
the teacher leaves to do what they want, more to				.81	.67
the teacher gives the opportunity to develop their own exercise programme, more to				.68	.50
most of the time is taking place what want				.60	.43
most of the time we practise skill and play games that make happy				.60	.44
more autonomy in the lesson have	.36			.48	.36
Percent of variance	21.6	14.2	8.6	7.3	
Eigenvalues	5.8	3.8	2.3	2.0	

Note: H^2 denotes communality

TABLE 2. Internal Consistency, Means and Standard Deviations for the whole sample and for males and females

	α (whole sample)	*Mean* (whole sample)	*SD* (whole sample)	*Mean* (male students)	*Mean* (female students)
differential motivational patterns	.85	.72	.96	1.13	.46
teacher's differential contact	.83	.10	1.11	.33	-.07
teacher's differential severity	.81	.50	1.08	1.01	.14
differential choices	.80	.39	1.15	.76	.11

The internal consistency of the factors was acceptable (see Table 2).

Sex differences

Results from t-tests revealed that male students were more likely to believe that the physical education lesson benefited more the boys than the girls, $t(188) = 5.08$, $p<.001$ (see Table 2), the teachers had more interactions with the boys than the girls, $t(192) = 2.52$, $p<.02$, the teacher was more severe towards the boys than the girls, $t(192) = 6.10$, $p<.001$, and the boys had more choices in the lesson than the girls, $t(198) = 3.96$, $p<.001$, than female students.

T-tests were computed in order to examine whether students perceived differences in the dimensions of the *DCCPEBGQ* due to teachers' gender. Students reported that male teachers had more interaction with boys (*Mean* = .51) and female teachers more interactions with girls (*Mean* = -.97), $t(193) = 9.44$, $p<.001$. Moreover, male teachers were perceived as more severe towards boys (*Mean* = .71) than female teachers (*Mean* = -.04), $t(193) = 5.08$, $p<.001$.

Between-class and between-teachers differences

Research in class climate usually involves the class mean as the unit of analysis (Fraser, 1986; Papaioannou, 1994). Accordingly, questionnaires measuring class climate are examined with regard to whether they can discriminate between the perceptions of students in different classes. For all factors, analysis of variance revealed between-class differences ($4.31 < F(11,181) < 14.88$) as well as between-teachers differences ($2.39 < F(5,181) < 24.52$).

Attitudes

The scales interest in the lesson and perceived usefulness of the lesson were reliable (the Cronbach's α was .70 and .90, respectively). Results from t-test showed that there were no differences between male and female students with regard to these variables.

DISCUSSION

The present study is the first attempt towards the development of a measure of students' perceptions of gender-related differential patterns in physical education. The Differential Class Climate in Physical Education for Boys and Girls Questionnaire (*DCCPEBGQ)* is a 27-item scale assessing gender-related differential motivational patterns, teachers' differential contact with boys and girls, teachers' differential severity towards boys and girls and differential choices given to boys and girls. The factor analysis, the differences between boys and girls in the perception of the gender-related differential class climate and the differences in the perceptions of teachers' treatment towards boys and girls due to teacher's gender provided construct validity for this instrument.. Furthermore, the scales of the *DCCPEBGQ* seem to be reliable. Finally, the scales of the *DCCPEBGQ* can reveal between-class and between-teachers differences. This is considered a desirable characteristic of a measure of class environment (Fraser, 1986).

Our initial purpose was to develop three more scales. Studies in the area of teachers' expectations suggest that some teachers differentiate their support according to their expectations (Martinek, 1989). Moreover, there is research evidence implying that boys and girls follow different activities during the physical education lesson (Griffin, 1981). Finally, students' motivation depends on their perceptions of teachers' focus on students' learning (Papaioannou, 1994).. However, the items which were develop to tap the above dimensions did not produce stable factors. Hence, future research is needed to measure these dimensions.

Although the sample size was not too large, the present data suggest that Greek students perceive that the physical education lesson is more likely to motivate boys rather than girls. What's more, this finding was supported by both males' and females' reports. This seems to contradict the finding that both males and females reported equally motivated in the physical education lesson. In other words, although males and females agreed that the physical education lesson is better fitted for the boys, both of them reported equally motivated. Future research is needed in order to understand this inconsistency.

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RULE BREAKING AND PLAYERS' GENDER IN TEAM SPORTS

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INTRODUCTION

Various phenomena falling under the label "violence in sports" can be observed on the sports field during play. A legitimate question that arises is: How does the gender of the players enter into the picture at various ages? Does participation in sports lead to the development, in boys as well as girls, of some sense of morality, or on the contrary, does it teach the players to engage in non-standard, unacceptable behaviors? How do male and female players at different ages behave on the field and on the court? Does the conduct of girls follow the same patterns as that of boys? One way to answer these questions is to examine the real world of sports by directly observing players in a situation of competition. This can be done by conducting behavioral studies from a differential but also developmental perspective.

The gender factor is known to have an effect on a wide variety of phenomena, particularly in the area of sports. Gender-linked differences in attitude during participation in a sports activity have been observed in most of the related research. The study by Webb (1969) who proposed "a professionalization scale" for assessing attitudes about sports, as well as a number of other studies which have extended this investigation to various populations (Blair, 1985; Sage, 1980), have shown that male subjects put more emphasis on winning than female subjects. Theberge, Curtis, and Brown (1982) showed that only in high-level sports do men and women have similar attitudes about winning.

Other comparative studies have dealt with the perceived legitimacy of aggressive behaviors in sports. Male subjects appear to be more tolerant of violent acts and rule breaking (Brown and Davies, 1978; Rainey, 1986; Rail, 1990). Pilz (1979) administered a questionnaire based on a Likert type of scale to assess the extent to which male and female handball players tolerate acts that violate the rules of the game. The female players exhibited male-like tendencies in their values and forms of behavior. According to the author, female athletes become increasingly oriented towards the male model, subtilely adopting a value system which gradually condones female violence. It has generally been shown that girls tolerate violence to a lesser extent than their male counterparts, but this difference decreases as we move up the competitive ladder: the higher the level of competition, the more female players, like male players, accept violent behaviors (Rail, 1990). Other authors (Eron, Walder, Huesman and Lefkowitz, 1974; Eron and Huesman, 1984) have found that certain female players are as aggressive as males: these girls are usually the ones who have been socialized as boys, who have always preferred

boys' games, and whose adult behaviors exhibit a high degree of masculinity. The authors concluded that the factors linked to past experiences and learning contribute to the male-female difference in the perception and frequency of aggressive behaviors.

Studies which examine the gender-of-players factor by direct observation are scarce, but the few available results are consistent with those obtained in a more general perspective: girls engage in fewer aggressive behaviors than boys (Pfister and Sabatier, 1987; Sabatier and Pfister, 1995).

Defining aggressive actions in sports as "breaking the rules" is widely accepted. We agree with this approach, but a more precise definition that will allow us to identify and measure the behavior under study is necessary for operationalizing this variable. The observation device designed by Pfister (1985) to measure "illegal adversative interaction" (IAI) can be used in a purely descriptive manner to analyze the ways in which two opposing parties interact. IAI, or interaction via which players break the rules, can be subdivided into two types, *operative* and *non-operative*. Operative IAI occurs during play and corresponds to instrumental aggressions of a physical nature addressed solely to an opponent. Non-operative IAI occurs when the ball is not in play and corresponds to all forms of reactive or emotional aggression not directly related to a play itself; it can be of various types and aimed at a variety of targets.

Variables such as age and gender, known to play an important role in many diverse contexts, have not been sufficiently studied in this area. The main objective of the present study was to analyze the effects of age and gender on the nature and frequency of rule-breaking behaviors, assessed by direct observation of handball competitions.

METHOD

I. Subjects

The populations under study were male and female handball teams of various age categories. The categories were the ones assigned by the French sports organizations, and included the following age groups: age 9-10, age 11-12, age 13-14, age 15-16, age 17-19, and adult (age 20-35). The teams selected for observation had all reached the highest level in their age category (excellence). The adult teams were at national level I.

The corpus was made up of 60 filmed games (10 games per age category, half male and half female). As the duration of a game differs across age categories, a standard length of five minutes of play was chosen for statistical processing and presentation of the results, in order to allow for cross-category comparisons.

II. Procedure

The games were filmed by our research team in their entirety, and then viewed and coded

using an observation grid. Direct observation was used. Each game was scored along three lines: the agent, the nature, and the frequency of rule-breaking behaviors.

III. Dependent variable

Rule breaking or "illegal adversative interaction" (IAI) was operationalized by means of an observation grid containing classes of observable behaviors. The classification proposed for handball and used to defined the grid set the criteria for determining the frequency of the observed phenomenon (table 1).

Table 1. Classification of IAI in handball playing.

OPERATIVE IAI
REPELLING (shoving, charging, knocking over, jumping at or onto opponent ...)
RETAINING (blocking, retaining, surrounding, grabbing clothing or arm, retaining arm during a shot ...)
HITTING (slapping, kicking, grabbing ball from opponent, ...)
CHEATING (stalling game, violating distance code, hindering opponent, ...)
..... *when the ball is in play*
NON-OPERATIVE IAI
AGAINST AN OPPONENT (charging, hitting, shoving, pushing, making obscene gestures or gestures of irritation, insulting, threatening, ...)
AGAINST A REFEREE (shoving, hitting, protesting against a decision, ...)
AGAINST A TEAMMATE (shoving, hitting, making obscene gestures or gestures of irritation, criticizing, insulting, threatening, ...)
AGAINST OFFICIALS, JOURNALISTS, THE PUBLIC ... (shoving, hitting, insulting, making vehement remarks, making obscene gestures or gestures of irritation, ...)
AGAINST ONESELF (pulling one's hair, hitting head against a wall, insulting oneself, self-reproach, gestures of irritation following one's own failure, ...)
AGAINST AN OBJECT (hitting something ...)
..... *when the ball is not in play*

IV. Independent variables

In collective sports in France, a player is assigned to an age category on the basis of his/her month and year of birth. A player remains in the same category for two, sometimes three consecutive seasons. In this experiment, six of these categories were observed for the age variable: age 9-10 (C1), age 11-12 (C2), age 13-14 (C3), age 15-16 (C4), age 17-19 (C5), age 20-35 (adult). The gender-of-players factor has two categories: male (G1) and female (G2).

V. Between- and within-judge agreement

We obtained a reliability rate of 81% (between-judge agreement). The stability rate was 85% (within-judge agreement).

VI. Statistical processing and hypotheses

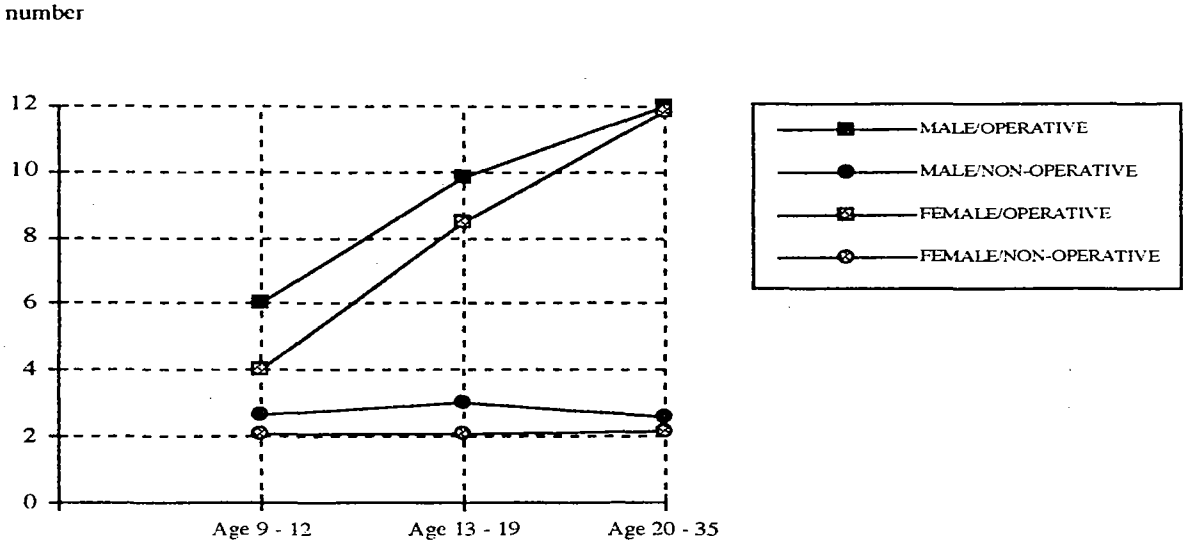
The analysis of variance was a 6 x 2 ANOVA (age category x gender). We were interested in the main effects of these factors. The following hypotheses were set forth: (1) the higher the players' age category, the more IAI they will exhibit, and (2) boys will engage more often in IAI than girls.

RESULTS

The analysis of variance yielded a significant effect of gender ($F_{(1,48)} = 20.35$, $p < .001$) and age ($F_{(5,48)} = 26.69$, $p < .001$). Post-hoc Newman-Keuls analyses indicated no significant difference between the 9-10 and 11-12 age categories, or between the 13-14, 15-16, and 17-19 categories. However, the first two age categories (ages 9-10 and 11-12) differed significantly ($p < .01$) from the last three (ages 13-14, 15-16, and 17-19), as did the latter category from the adults ($p < .05$).

As figure 1 shows, IAI increased with the age of the players. Illegal adversative interaction was more frequent in the male games than in the female ones, although the difference between the men and the women was not significant for the adults ($F_{(1,48)} = 0.074$, n.s.).

Figure 1. Mean number of operative and non-operative IAI's, by gender and age category, during five minutes of play in handball games.



DISCUSSION

In sports, male players -- even the youngest ones -- generally manifest more aggressive behaviors than female players. A preliminary explanation can no doubt be based on biological considerations. Hamburg and Brodie (1978) reminded us that the greater aggressivity of male individuals may be due to the early penetration of androgenic hormones in the brain. The hypothalamic-limbic pathways are what seem to be affected. This generates a particular behavioral orientation wherein the individual is more attracted by aggressive behaviors and acquires them more easily. The reaction threshold to certain combat triggering stimuli is lowered. But this is only a very general tendency which is likely to be modified as a function of experiences, cultural conditioning, and social learning. These biological determinants are relayed by an entire socialization process, which is guided by and oriented towards sex roles.

An important aspect of the socially acquired behaviors is that they are gender-specific. Most explanations of sex differences in the manifestation of violent behaviors pertain to the socialization of sex roles and social learning, which extends from birth to adulthood, and through which individuals acquire and internalize the roles considered appropriate for their gender (Buss, 1961; Smith, 1975). Differential socialization practices contribute to encouraging and allowing boys to express their aggression directly, while usually discouraging this behavior in girls. According to Eron and Huesman (1984), women exhibit lower levels of aggression because aggressive behavior is not socially reinforced in the female. Boys more often than girls are raised to play collective ball games, just as the male upbringing promotes and even demands much more competitive behavior than the female upbringing. This social facilitation of competition and the advantage it procures appear to be more clearly manifested in boys than in girls. As such, individual gender-linked differences in competitiveness may be culturally determined.

In the present study, a gender-linked difference in aggressiveness was not found between players at the highest level (adult category). This result -- the fact that the women exhibited as many rule-breaking behaviors as the men -- should be considered in the light of the demands of this milieu. In this line, Frogner and Pilz (1982) obtained what they called surprising results concerning the girls' readiness to "play hard" and the frequency of violent actions during important games. It seems that girls must learn these attitudes to a much greater extent than boys because they feel more pressured by the coach to "play hard". Girls win the coach's approval when they make a severe foul to avoid a goal, for example, and girls are often explicitly trained to "play hard". Because of their gender-specific socialization, girls more than boys learn to be "tough" and aggressive in play.

Eron and Huesman (1984) found that boys and girls alike prefer traditionally male activities as they get older and more experienced. Experienced female athletes tend to be more oriented towards winning, in connection with the demands of the group or organizational milieu,

and more aggressive than younger ones who are progressing at a lower level. Thus, in the adult category at the national level, female athletes produce illegal behaviors which are similar in frequency and nature to those manifested by men, with the disappearance of sex stereotypes and the appearance of the dire need to win. The observed gender differences clearly show that in competitive sports, modelling one's behavior after the rule-breaking model is an essential condition for success.

Cognitive theories on motivation (Duda, 1983; Maehr and Nicholls, 1980; Nicholls, 1978, 1984) have provided evidence of a need to accomplish, which determines both the extent to which an individual invests in a freely-chosen activity and the intensity of this commitment. Subjects confronted with a task attempt to prove their competency, either in the face of others, which amounts to demonstrating their superiority, or with respect to themselves and their own personal standards. The former may be a reflection of a lack of interest in fairness, equity, and the integrity of the opponents (competitive motivational goal), while the latter may represent a tendency towards good sportsmanship (motivational goal of achievement). The motivational goals of individuals are relatively stable and are thus good predictors of what those individuals will do in certain situations. Famose, Cury, and Sarrazin (1992) showed that the tendency to set competitive goals depends on the degree of competitiveness in the training place. Young players aim more and more for a competitive goal as their skills and level improve, so that the training place and competitive climate cancel any differences between the goal orientation of boys and girls.

The studies by Chaumeton and Duda (1988) suggest that the "ego-oriented" dimensions of sports become more and more pronounced as the level of competition increases. The results of a study by Duda et al. (1991) showed that both good sportsmanship and attitudes concerning the legitimacy of aggressive acts vary with the goals of the participants. "Task-oriented" goals are rooted in values such as cooperation with others, respectfulness, abidance by the rules, self-improvement, and skill enhancement. Ego-oriented subjects, on the other hand, accept whatever it takes to win and to prove their superiority. As such, the sports activity is the means for reaching the ends. Nicholls (1984) contended that an individual's goal goes hand in hand with his/her view of the significance of the activity and the perceived acceptability of a behavior in a given context. According to Duda et al. (1991), men are more apt to accept unsporting, fraudulent, or strategic games and intentionally destructive acts. Women approve more of fair games than men do. Male and female athletes appear to have different ideas about what constitutes fair play and what is legitimate behavior in sports. These gender-specific conceptions seem to stem from differences in goal orientation. Male players are more ego-oriented than female players, whereas female players are more task-oriented. In general, studies on children and adolescents and their sports- or non-sports orientation have found that sports-oriented individuals play less fairly, are less altruistic and more aggressive, and have a lower moral development level (Blair, 1985; Bredemeier, Weiss, Schields, and Cooper, 1986; Silva, 1983,

etc.). This tendency becomes more pronounced as the number of years in competitive sports increases, particularly in the case of men. Attitudes against fair play rise as participation in competitive sports increases. As such, competitive sports, which accentuate the importance of winning rather than personal and relational development, fulfill a certain function in socialization, but it may very well not be the one advocated in organized sports.

In conclusion, the gender-based differences observed in this study are consistent with Duda et al.'s (1991) results which showed that ego-oriented attitudes prevail in male players, while female players tend to be more task-oriented. Rule-breaking behaviors appear to be used primarily to attain competitive goals. However, at a higher level of participation, and regardless of the player's gender, the goals are identical, and illegal behaviors do not differ in nature or frequency.

The manifestation of rule-breaking behaviors is certainly related to the demands of the sports milieu where aggressiveness is not out of place. They become a means of obtaining a positive status or advantage in the game, if not victory itself. At this level, women adhere totally to the male standard.

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S.2.2. RELATIONSHIP BETWEEN ATHLETE COACH PARENTS

Chairperson : S. SERPA

A STUDY OF AGREEMENT BETWEEN COACH AND ATHLETES

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Key Words: estimate scales, relations among the coach and athletes

Phenomenology of Agreement

Sport performance is a result of the common activity of coach and athlete. Not only the athlete enters for an examination during a competition, but the coach too, participating in the success and the failure as well. Although the performance has got a lot of condition, like objective and subjective conditions, co-operation is considered to be the most important point of view in everyday training.

Some truly co-operation may be in the process, which had been approached in the previous opinions. So the basic condition of co-operation is the agreement (understand). If it isn't to be found then it may be a change, a provisional or a pressure circumstance but not a co-operation, indeed.

The agreement is called developing of common points of view for the common actions in the future. The agreement couldn't mean giving up all the self standpoints but it means an ambition to discover and realise common points of view. After such an agreement the partners will have a good co-operation.

We are able to recognise the right of these establishments not only in the attitudes between coach and athlete but in other area of life like politics, economy and education. That is why the phenomenological approach is important, because the phenomenology study and analysis the most generalised ideas from interaction phenomena among people.

However life is not running on a certain level of concepts of course. Searching and accepting the common standpoints couldn't happen without accepting each other. Personal contacts have got a great role. First we have to know the person then his/her opinion. This way we are able to turn out the disagreements. Disagreement always cause disturbances and strained relations in the exercise during the training. It distracts attention into a false direction and decreases the energy and time. Disagreement tires our patience and makes us tired. That's why coach and athlete have to do all because decreasing of disagreement in the sport preparation.
What are the main stages of agreement and disagreement among the coach and athletes? Where shall we build absolutely a good and fruitful agreement?

Empirical approach

1. A good agreement begins with the developing of a common system of aims. In the range of aims the dream-goals must be signed for years and the middle distance goals,

then immediate or competition goals. This is goal setting. The nearer the goal is, the more difficult the task is for the coach.
One task is to regulate the connection between the aspiration level and the performance which is a well known aspiration level-law in the psychology (Hoppe,F. 1931, Siegel, I. 1954). There are alternative mistakes at the immediate goals. If the athlete takes on too much but he can't fill it, the coach have to decrees his goal. If his aspiration is too small the goal have to be increased by the coach.

2. The next step is the planning of the training program, in close connection with the execution. Planning may not happen arbitrarily (high-handedly) without agreement, because whatever good is a program, it will be executed by the athlete. A perfect execution is impossible without full agreement, of course. A professional program is offered by the coach, but it is controlled by the athlete. It is not only an opportunity to do but it is a continuos regulation.

It can quite easily occur that the athlete isn't able to fulfil the program. He does fewer or even more, because his state allows it. The best program flexible enough if follows the change at the training-state. Inflexible program brings physiological deficits and strained relations and conflicts. It happened after a defeat, that the coach accused the athlete of his weaker work in the training and at the same time the athlete protested against the too much physical loading. In the background there was the disagreement again.

3. According to our experience there are a lot of disagreements and conflicts in the estimation of training and competition (Veit, H. 1971). It is a mistake when the estimation isn't systematic and follows only the competition. An estimation by the coach is always comforting for athlete. The training process is as important as the competition, because at the end of this process will come the win or the disappointing despite. Competition verifies the common work and its level. If we give an estimation only for sport result, it can't be a complex and detailed estimation.
Another mistake is the preconception of coach. If the coach has got one, his opinion should influence positive or negative directions. It is named for"anchor effect" in the psychology. In a former study such a problem had been found by a coach in the 1st League (Nagykáldi Cs., Pilvein M. 1972). He gave an estimate about the general knowledge of players instead of about their present state after the match.
Unfortunately, there are hardly available methods for using beyond the traditional competition and match results. So coaches require the support with method in the estimation.

General methods for support of agreement.

There are a few studies related to agreement and co-operation. Lenk H. (1970) had written about a special case, when the German Rowing Team achieved good results despite the conflicts among the rowing partners. The role of coach was very important, he had a strong authority and was able to eliminate the conflicts. Nádori L. (1981) listed more conditions of good co-operation inside the team, like knowledge,

thinking, tactical planning, present states and the role of informal group. Terry Orlick (1976) took the coach into this social picture. Coach participated in the mental preparation but hadn't a truly role in the developing of agreement indeed. Cooker,P.G: and Coffey C.A. (1984) went further in their new test measuring the responsiveness, sportsmanship, co-operation and relationship in the coaches' perception of athletes attitudes.

Applied methods in the study

The aim is to develop a method for using of coaches. It will be a complex approach applying a double method from one side of athletes and the other side of coach. There are two attitude tests in the question. First questionnaire will be filled in by athletes estimating themselves, the second one by coach writing one by one about his/her athletes. It is necessary to have a lot of training experience from both side and high education from the coach.

1. Method: *Self Estimation Method* (SEM, Nagykáldi,Cs. 1985,1994).
The Self Estimation Method consists twelve 7-point Likert scales. They extend for the function of physical condition, workability, activity, mood, concentration, movement regulation, technical level of skill, training motivation, self-confidence, attitude for competition, expectancy of achievement and satisfaction. The logical- empirical basis of the test is the workability (physiological-somatic side), technical level of skills (motor learning) and the expectancy of achievement (basis of motivation). Its system could be represented by an index (workability+technical level+achievement motivation, 1985).
Validity of test: In the computed index values, which were measured at female volleyball players (N= 17) in a very good and in a low competition situation (state) the t-test showed a significant ($p < .001$) difference. The outside validity with sport results had given a good validity.
In the two mentioned situations further functions (inside validity)were measured. In the width of attention ($p < .05$) and in a tremometrical method the achievement expectancies gave significant difference at $p < .001$ level (Nagykáldi,Cs. 1973, 1974, 1978).
Some variables, especially the mood and concentration had significant correlations with anxiety and arousability (Spielberger Ch. STAI and El Zahhar AAI tests). The SEM test was applicable to other psychometric methods (Nagykáldi,Cs.,Sipos K. 1986).
Recently a factor analysis was carried out with varimax rotation (N= 119) and separated three main factors:
1. The physical condition factor with scales of the mood, activity, workability, self-confidence and physical condition in order of factorweights.
2. The psychomotor co-ordination factor involves the moving regulation, concentration, training motivation and technical level of skills.
3. The achievement motivation factor consists of the expectancy of achievement, satisfaction, attitude for competition and satisfaction.
A few scales have got high factorweight so they belong to the two main factors.

2. Method: *Coach Estimation Method* (CEM, Nagykáldi,Cs.,Manohar Singh, B. 1995 in this Proceedings).
The CEM test consists of 8 items with 7-point Likert scales: physical condition, loading tolerance, hard work, expectancy of achievement, sociability and readiness. The correct interpretation is given in the Proceedings. The logical- empirical basis of the test: the loading tolerance (somatic side), the mobilized technical knowledge (skill) and expectancy by coach (expectancy from athlete). They are in index presentation: LTE (loading tolerance+ technical knowledge+ expectancy).

Reliability: Crombach Alpha was computed by software SPSS+ (N= 200). The common result Alpha= .7881 is suitable for the Likert scales.

Validity: Well educated coaches in shooting (N= 24) have got the task to chose two members of his/her competitors. One of them should be successful and the other one a not successful athlete. The age and so called competitor's age were the same. After that they estimated their athletes, it was analysed on the differences in each variables. There were significant differences between $p< .1$ and $p<.001$ level except the windup scale. All the 8 scales were available.

A varimax factor analysis was executed and three main factors extracted:
1. The workability factor represents the physical condition, loading tolerance, hard work and readiness scales together.
2. The motor skill factor consists of the technical level of skills, expectancy of achievement, readiness and stress tolerance.
3. The psychosocial expectancy factor has the sociability and the expectancy of achievement again, because the last one has got a part of social expectancy too.

Hypothesis and procedure.

It is hypotised that the parallel applying of two tests, which were mentioned above, could be able to show the agreement and disagreement among the athletes and coaches. Further hypothesis is that the agreement is influenced by the art of sports and the qualification of athletes.
The way of analysis to stand the adequate factors and scales, as factor variables to each other. We carry out correlation analysis how high coefficients are between these parameters.
The high correlations have to verify the perfect agreements but the low and near to zero values have to represent the disagreements. With the help of independent correlations it could even say the purposes of the disagreements.

The comparison of adequate factors:

SEM factors	CEM factors
1. Physical condition	1. Workability
2. Psychomotor co-ordination	2. Motor skill
3. Achievement motivation	3. Psychosocial expectancy

The comparison of adequate variables:

SEM variable	CEM variables
1. Physical condition	1. Physical condition
2. Workability	2. Loading tolerance
3. Technical level of skill	3. Technical knowledge of skill
4. Training motivation	4. Hard work
5. Achievement motivation	5. Expectancy of achievement
6. Satisfaction	6. Readiness

Results

TABLE 1. Male Basketball Players.
Faktors (N= 15)

SEM	Correlations	CEM
1. Physical condition M= 25.4 SD= 4.21	**. 58 p < .05**	1. Workability M= 19.5 SD= 3.29
2. Psychomotor co-ordination M= 20.6 SD= 3.90	**. 59 p < .05**	2. Motor skill M= 17.3 SD= 3.27
3. Achievement motivation M= 14.5 SD= 3.60	**. 60 p < .05**	3. Psychosocial expectancy M= 15.4 SD= 3.60

M= mean, SD= standard deviation, p= probability, NS= not significant

TABLE 2. Male Basketball Players. (N= 15)
Variables (N= 15)

SEM	Correlations	CEM
1.Physical condition M= 4.8 SD= 1.42	**. 64 p < . 01**	1. Physical condition M= 4.4 SD= 1.96
2. Workability M= 5.2 SD= 1.21	**. 61 p < . 05**	2. Loading tolerance M= 5.7 SD= 1.33
3. Technical level of skill M= 4.8 SD= 1.46	**. 47 p < . 1 NS**	3. Technical level of skill M= 4.0 SD= 1.56
4. Training motivation M= 5.9 SD= 1.03	**. 80 p < .001**	4. Hard work M= 4.5 SD= 1.25
5. Expectancy of achievement M= 4.6 SD= 1.40	**. 27 NS**	5. Expectancy of achievement M= 5.4 SD= 0.99
6. Satisfaction M= 4.6 SD= 1.40	**. 35 NS**	6. Readiness M= 4.9 SD= 1.10

TABLE 3. Table Tennis Player Girls.
Factors (N= 14)

SEM	Correlations	CEM
1. Physical condition M= 27.7 SD= 4.78	**. 34 NS**	1. Workability M= 19.2 SD= 5.89
2. Psychomotor co-ordination M= 21.1 SD= 3.04	**. 45 p < . 1 NS**	2. Motor skill M= 15.2 SD= 4.51
3. Achievement motivation M= 18.0 SD= 3.64	**. 08 NS**	3. Psychosocial expectancy M= 15.0 SD= 3.20

TABLE 4. Table Tennis Player Girls.
Variables (= 14)

SEM	Correlations	CEM
1. Physical condition M= 5.5 SD= 1.22	**. 48 p < . 1 NS**	1. Physical condition M= 4.7 SD= 1.63
2. Workability M= 5.4 SD= 1.22	**. 75 p < . 01**	2. Loading tolerance M= 5.2 SD= 1.89
3. Technical level of skill M= 5.4 SD= 0.65	**. 23 NS**	3. Technical level of skill M= 4.5 SD= 1.83
4. Training motivation M= 5.3 SD= 1.02	**. 32 NS**	4. Hard work M= 5.0 SD= 1.41
5. Expectancy of achievement M= 4.8 SD= 1.03	**. 40 NS**	5. Expectancy of achievement M= 5.0 SD= 1.30
6. Satisfaction M= 4.4 SD= 1.09	**. 79 p < . 001**	6. Readiness M= 4.2 SD= 1.58

Discussion

The average age of basketball team in between 19-21 years. They have gone in for basketball for 5-6 years with the leading of the same coach. This team has got significant correlations in all three factors, therefore there is a good agreement among players and the coach. There are even high correlations in the adequate variables. The highest is between the values of training motivation and hard work, but there are low level in both the achievement motivations and between the satisfaction and readiness. So there aren't found agreement in these points of view.

The average age of the table tennis player girls is 15-16, and they have done table tennis for 4-5 years. There is only a remarkable connection between the factors of psychomotor co-ordination and motor skill. But there aren't correlations between physical condition and loading tolerance, and the two expectancy values. An agreement could not be found here.

In six pair of estimation variables there were significant correlations between the workability and loading tolerance and between satisfaction and readiness. The coach will have to do developing in the estimation of technical levels (skill), achievement motivations and between training motivation and hard work, because there are big disagreements and wrong situation for the effective co-operation.

Conclusions

The results of examined groups give some possibility for conclusions.

1. Among the players and the coach there could be found more connections in the estimated factors and variables at higher classified group. This testifies the better agreement. Despite this fact only in one factor and a few variables had higher correlations at the younger and lower classified group. In the other point of view there was disagreement between the coach and athletes. It means, that the level and frequency of agreement are connected with the classification of sport groups and at the same time with the time spent in training and competition. These two aspects have to be studied and analyzed in the future.

2. The points of view of disagreements can be demonstrated well with this double method. According to results the disagreement variations can be established among the art of sports too. It have to make clear further investigation.

3. Discovering of disagreements can help both the coach and the athletes because the good agreement give a good way to the good co-operation. And the co-operation is the basis of success in sport.

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COACH-ATHLETE RELATIONSHIP AND SOCIALIZATION

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KEY WORDS

Youth sport, observed coaching behavior, leader behavior, socialization

INTRODUCTION

Regular participation in organized sports means a special possibility for the coach to socialize the children in the educational goals of sports. Coach-athlete relationship has been studied mainly from the viewpoint of top performances, little from that of the needs of the child's psychological growth and development. The particular characteristics of sport, its emphasis on action, the close interaction between the coach and the young athletes and the wealth and versatility of activities offer a good opportunity for achieving the educative and teaching objectives of sport.

The purpose of this paper is to highlight the theoretical viewpoints of favorable coach-athlete relationship for growth and to analyze how these principles are realized in organized sports. A healthy and safe growth and development environment means, among other things, that children like to take part in the activities and that self-esteem is not threatened. As the child receives positive experiences of sport and positive reinforcement of his/her own body and physical skills, it has been shown that physical competence develops positively (Harter 1978, 37). This, in turn, occurs via a physical self-conception, which is related to both general self-esteem and motivation for sport (Roberts, Kleiber & Duda 1981; Smoll, Smith, Barnett & Everett 1993). The coach´s internalized model of education and feedback behavior play an important role in the development of intrinsic motivation as well as in the athletes´ learning and growing process. Various patterns of

differentiation, teaching methods and sharing in decision making, appear to be significant in terms of the development of a positive self-concept (Gruber 1986).

METHOD AND PROCEDURE

The subjects were 128 Finnish youth coaches representing various sporting events. Coaching behaviors were analyzed using systematic observation and subjective rating of the coaching session. In addition, coaching behaviors were assessed with The Leadership Scale for Sports, LSS (Chelladurai & Saleh 1980).

Coaching behaviors were analyzed using a 17-category observation schedule with each activity being coded at six seconds intervals. The length of the analyzed period was 45 minutes in total, which consisted of three 15 minute takes from the beginning, middle and end of the coaching session. Three mutually exclusive cluster variables were formed by collapsing observation categories. They were active, passive and responsive coaching behaviors. Active and responsive behaviors were linked with the authority relationship in coaching. Active coaching behavior refers here to the type of direct coaching in which athletes have a passive role, and responsive coaching behavior refers to activity in which the young athletes being coached have an active role. Passive coaching behavior refers to support type activities in coaching, where the coach has no active role in the implementation of training.

An external observer rated the coaching session after it was over, by filling in a rating scale consisting of 35 items. The rated aspects were teaching arrangements, communication skills, working methods, interaction and athlete participation. The rating scale was also used to create a cluster variable of humanistic coaching on the basis of humanistic psychology (Lombardo 1987; Liukkonen, Salminen & Telama 1993).

The self-assessment version of the Leadership Scale for Sports (LSS) (Chelladurai & Saleh 1980) was completed by 68 coaches. For each coach, an average score based on the athletes perceptions was calculated. This was then compared with the coaches' self-assessment scores of their own leadership styles. The dimensions of the LSS-scale are: (1) training and instruction, in which the coach trains and directs his athletes in order to

achieve maximal results, (2) democracy, in other words how much the coach permits the athletes to take part in decision making, (3) autocracy, or how much distance the coach keeps between himself and his athletes and how much he pressures them to obey his instructions, (4) social support, or to what degree the coach satisfies the social needs of the athletes, and (5) rewarding behavior, with which the coach praises the performance of

the athletes. Chelladurai and Saleh (1980, 43) define the training and instruction dimension for the task factor, democratic and autocratic dimensions associated with the decision style factor, as well as social support and positive feedback dimensions associated with the motivational factors.

The psychometric properties of all three scales and dimensions constructed of them, have proven satisfactory (Liukkonen, Salminen & Telama 1993; Salminen & Liukkonen 1994).

RESULTS

More than half of the athletes reported that they had not taken any part, and 3% had taken only some part in drawing up the training programs. Sixteen percent of the coaches stated that athletes had had some role in producing the plans. Only 7% of athletes found coaching sessions unpleasant, and over 70% of coaches perceived themselves to be educators, to a rather high or very high extent.

Half of the coach´s training functions were active and over one third of the instruction was a passive support of activity. Five per cent was responsive behavior. The coaches used almost one fifth of the coaching time on giving instructions. Positive feedback was seldom given (3% of coaching time), but even so, this was more frequently given than negative feedback (2% of time).

The distributions of the variables included in the rating scale of the coaching sessions revealed that the coaches possessed a good command of teaching arrangements, and of the skills related to the sporting events. By contrast, 56% of the coaching actions were rated as authoritarian, and 24% democratic. The communication skills of coaches were rated as good in 77% of cases. Coaching activities were guided primarily in one group (68% of

cases), with little pair work (15%) or individual practice (32%). The young athletes carried out the tasks eagerly (85%) and in a responsible manner (72%). Interaction between athletes was limited (32%) and assistance was rarely given to others (8%), and there was hardly any educational discussion during the coaching sessions (18%).

TABLE 1. Pearson product moment correlations of active, passive, responsive and humanistic coaching clusters with some background factors (n=91-128)

Variable	Active	Passive	Responsive	Humanistic
COACH				
Age	-.28***	.35**	.16	-.25**
Education	-.13	.10	.09	.11
Coach training	-.00	.02	-.04	-.09
Experience	-.12	.15	-.10	-.19*
Sporting career	.20*	-.15	-.15	-.10
Gender	.27***	-.30**	.05	.07
(1=male, 2=female)				
Training in Ph.Ed.	.17	-.16	.05	.15
Event category	-.13	.22**	-.22**	-.03
(1= individual, 2=team sport)				
ATHLETES				
Age	-.21**	.25**	-.09	-.27**
Competition level	.05	.04*	-.27**	-.33***

*) p<.05 **) p<.01 ***) p<.001

Active and passive behaviors were related to the age and gender of the coach and to the age of athletes (Table 1). As the coaches´ age increased, the proportion of active coaching behavior decreased. Female coaches were more active than their male counterparts. The coaches of older athletes displayed less active training behavior than their colleagues who worked with younger athletes. Responsive behavior was related to the sporting event and the competitive level of athletes. Coaches in individual events displayed more responsive behavior than team sport coaches. As the competition level of athletes rose, the proportion of responsive behavior also decreased. Similarly, the share of humanistic coaching

diminished, as the level of competition rose. The same thing happened when the age of athletes´ and the age and experience of coaches increased.

Also, competitive level of athletes correlated negatively with the democracy of the coaching method (-.23*), age group adequacy of the activities (-.27**), scope for athletes´ initiatives (-.21*) and the amount of interaction between athletes (-.38***). Competitive level correlated positively with the amount of negative feedback (.21*), persistence of coaching behavior (.30**), the effectiveness of task performance (.29**), scarcity of rest pauses (.19*), and the occurrence of educational discussions (.19*). The four first mentioned items were all included in the humanistic coaching cluster.

The analysis of athletes' perception of the leader behavior of their coaches and the self-assessments of coaches revealed that both the male and female coaches saw themselves as being more rewarding and giving of social support than the athletes (Table 2). In addition, the male coaches perceived themselves as being less autocratic and democratic than how athletes perceived them. The athletes perceived that the leadership styles of the male and female coaches differed from each other only on the part of autocracy. The male coaches were seen as being more autocratic than the female coaches (p<.001).

Table 2. Male and female coaches' self-assessed leadership styles and the athletes' perceptions of the coaches leadership styles; means and standard deviations, t-test

Dimension	Male coaches (n=40)		Athletes (n=264)			Female coaches (n=28)		Athletes (n=135)		
	$\bar{x}$	sd	$\bar{x}$	sd	t-test	$\bar{x}$	sd	$\bar{x}$	sd	t-test
Instruction	3.92	0.47	3.81	0.27	NS	4.05	0.39	3.79	0.49	NS
Democratic	**2.77**	0.53	3.20	0.41	p<.001	**3.35**	0.52	3.26	0.43	NS
Autocratic	2.53	0.49	**2.86**	0.47	p<.01	2.43	0.43	**2.51**	0.40	NS
Social support	3.46	0.53	3.04	0.34	p<.001	3.65	0.52	3.20	0.41	p<.001
Rewarding	4.29	0.47	3.90	0.40	p<.001	4.45	0.46	3.90	0.56	p<.001

The differences between the perceptions of the athletes and the coaches self-assessments were analyzed with t-tests in relation to the level of competition, that is, at the club, district and national levels. Competition level was associated with the difference in the athletes' coach-assessments and the coaches' self-assessments. The greatest number of

statistically significant differences occurred at the highest level of competition. The athletes competing at that level perceived their coaches as being more autocratic than how the coaches assessed themselves ($p<.001$), as well as less giving of reward ($p<.001$) and social support ($p<.001$). At the district level of competition significant differences were exhibited for democratic behavior ($p<.05$) and for social support ($p<.05$), whereupon the athletes evaluated their coaches' to be more democratic and socially supportive than the coaches themselves. At the club level, the only statistically significant difference was found for social support, in which the athletes evaluated their coaches to be less socially supportive than the coaches themselves ($p<.05$). Only at the club level, the athletes' perceptions were similar to the coaches' self-assessments for democracy (no difference). In district level (difference -0.32) and in national level (difference -0.20) the coaches assessed themselves to be less democratic than how the athletes perceived them.

The coaches of individual sports were seen, by the athletes as emphasizing more instructional activity ($p<.05$), democracy ($p<.01$), and social support ($p<.01$). Instead, the only statistically significant difference in the coaches' self-assessments was for democracy. The individual sport coaches perceived themselves as being more democratic than the coaches of team sports ($p<.001$). In comparisons of coaches' self-assessed and athlete evaluated leader behavior of coaches, for social support ($p<.001$ for individual sports and $p<.01$ for team sports) and reward ($p<.001$ for both sporting groups), the differences were statistically significant for both sporting groups. In the individual sports there were significant differences for autocracy ($p<.05$) and instructional activity ($p<.05$), as well as for democracy ($p<.001$) in the team sports, in that players perceived their coaches to be more democratic than in the opinions of the coaches themselves.

DISCUSSION AND CONCLUSIONS

According to the results of the various measurements, Finnish coaches can be characterized as being effective, active and authoritarian. Although the young athletes found the training sessions pleasant, they seemed to have assumed a passive role in the coaching process. They had scarcely any input in drawing up the annual programs. Trainee initiative was not visible in the coaching sessions, either. There was little interaction among athletes, and assistance given to others was non-existent. Coaching activities were

guided mainly in the whole group. The coaches' method of instruction was authoritarian and paid little attention to individuality. Individual practice, which promotes the self-initiative of trainees, occurred seldom. Coaches assessed themselves as being more positive in their leadership styles than how their trainees perceived them. These results reflect the obedient role of the athletes, and that coaches do not make use of, among other things, favorable situations which can be used for promoting social-ethical growth.

Male coaches, especially in team sports held themselves as being less democratic than in the perceptions of the athletes, which may reflect that they see that being a "hard-liner" belongs more to their role than being a "softy". Also, military service may have an effect on the creation of this type of coaching perception, which differs from those of female coaches. The army can be seen to be provider of an important leadership model, especially to those who have no pedagigical education.

Humanistic and responsive features of coaching behaviors decreased as the competitive level of the young athletes rose. Level of education and coach training did not correlate significantly with responsive and humanistic coaching clusters. The coaches of individual sports were perceived, by the athletes as being more democratic and socially supportive than team sport coaches. It is evident that the possibilities in team sports to develop children's sociability are left mainly unused. All in all, organized sports appears to be a world of its own in many respects, where the mode of coaching oriented to human relations has not established itself.

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COACH'S ANSIOGENIC BEHAVIOURS AND SOCIAL CLIMATE IN SPORTS

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KeyWords: coaching; training social climate; leadership; sport group

INTRODUCTION

International researchers have been trying to increase knowledge of relationship coach-athlete, which is considered to be a central issue in sports training-competition process. Available literature allow us to conclude that most of research focus in characterizing coach's behaviours connected to the management of training processes, mainly regarding instrumental and positive emotions of athletes. This is the trend followed by investigators who were inspired in the Multidimensional Model of Leadership in Sports (Chelladurai, 1990, 1993), or in the Mediational Model of Leadership (Smith & Smoll, 1989). Investigation focused in emotional aspects has not been so systematic, although results suggest that the emotional factors have significative importance in the function of coach-athlete dyad (ex: Craty, 1984a, b; Werhner & Orlick, 1986; Chapuis & Thomas, 1988; Davis, 1989; Spink, 1990; Carrier, 1992; Levèque, 1992, Ogilvie, 1993). However, some authors suggest that negative emotions in coach-athlete relationship also should be studied, and specific evaluating tools should be produced (Carron, 1994, Chelladurai, 1993; Horne, 1992).

The Model of Coach's Ansiogenic Behaviour (Serpa, 1995) suggests that athletes' emotional reactions are determined by their cognitive elaboration on the perceived coach's behaviours, which are significant references for them about the situation and their ability to cope with it. Social climate should be related to the level of coach's ansiogenic behaviours. This model can be empirically tested by the Coaches'

Ansiogenic Behaviours Inventory (CABI) (Serpa, 1994) which is composed by 27 items to be responded by athletes in a four-point Lickert scale, corresponding to behaviours that may induce tension in athletes. The overall results indicates the general level of ansiogenic behaviours. Four behavioural dimensions including CABI items are calculated too: Antagonism (coach's behaviours implicitly or explicitly expressing attitudes or opinions of opposition or devaluation regarding the athlete); Communication (coach's behaviours concerning personal contact with the athlete, as well as giving or taking information); Decision (coach's behaviours regarding problem solving or responding to sport situations by giving orders, taking initiatives, or assuming responsibilities); Tension (coach's behaviours expressing his/her negative emotions).

On the other hand, social climate of training sessions are supposed to influence sports development, and leadership behaviours measured by the Leadership Scale for Sports-LSS (Chelladurai & Saleh, 1978) seems to be a good predictor (Liukkonen, Salminen & Telama, 1989). According to Chelladurai (1991, 1993) and Carron (1994) the relationship coach-athlete takes place in a broader context interacting with several factors, as the sports group where they belong to.

Since relationship coach-athlete is a complex process, we may hypothesise that coach's ansiogenic behaviours interact with other psycho-social variables, concerning the coach and the group. The aim of this research is to verify if there is any relationship between coach's ansiogenic behaviours and leadership behaviours, group cohesion as well as the image of the coach perceived by their athletes.

METHOD AND PROCEDURE

This research is composed of seven studies where relations between coach's ansiogenic behaviours and other psycho-social variables were tested separately with different groups and sports.

Subjects

TABLE 1. Subjects

	MALE	FEMALE	TOTAL
art. gymn.	34	19	53
corfball	31	28	59
football/fed.	123	0	123
handball	105	74	179
swimming	72	48	120
voleyball	0	143	143
TOTAL	365	312	677

The total number of subjects was 677, ranged in age from 13 to 27, male (n=365) and female (n=312). All of them participated in competitive programs of the National Federations of football (soccer), handball, corfball, volleyball, artistic gymnastics and swimming (Table1).

Instruments

The Coaches' Ansiogenic Behaviours Inventory (CABI) (Serpa, 1994) was used to evaluate the coaches' behaviours that induce tension in the athletes. The global average and Antagonism (Ant), Communication (Com), Decision (Dec) and Tension (Ten) dimensions were considered in the research.

The Leadership Scale for Sports (Cheladurai & Saleh, 1978) was used to evaluate the leadership behaviours of coaches. Its results (from 1 to 5) concern five dimensions, composed by the 40 items: Reward, (Rew) Instruction (Ins), Social Support (SS), Democratic (Dem) and Autocratic (Aut).

The Coach-Player Interaction Inventory (Medford & Thorpe, 1986) was used to evaluate how the athletes perceived the coach's image which is computed by the sum of the 23 items, responded in a seven-point Lickert scale.

The Group Environment Questionnaire (Widmeyer, Brawley & Carron, 1985) was used to evaluate group cohesion. It is composed by

18 items to be responded in a nine-point Lickert scale, divided into for dimensions: Individual Attraction to Group, concerning the Task (ATG-T), Individual Attraction to Group, concerning Social aspects (ATG-S), Group Integration concerning the Task (GI-T), Group Integration concerning Social aspects (GI-S).

Procedures

After getting the coach's permission and a brief introduction, the researchers gave the questionnaires to the volunteered subjects during a training session, to be immediately responded and returned. Means and Bravais-Pearson correlation "r" were the statistical calculations.

RESULTS

TABLE 2. Means in ICAT, LSS, CPII, GEQ

	ICAT					LSS					CPII	GEQ			
	Ant	Com	Dec	Ten	Tot	Rew	Ins	SS	Aut	Dem		ATG /T	ATG /S	GI/T	GI/S
CORF.	2,09	2,34	2,22	2,12	2,18							3,99	4,25	5,14	4,88
FOOT	2,54	2,66	2,46	2,32	2,51	3,58	3,94	3,25	2.86	2,36					
GYM.	1,72	1,88	1,74	1,85	1,78	4,11	3,13	2,36	3,56	4,23					
HAN.	2,29	2,33	2,14	2,11	2,24	3.56	4.02	2,89	2,62	4,17					
SWM	1,61	1,86	1,72	1,71	1,71						130				
VOL	1,83	2,11	1,88	1,86	1,97							6,28	7	6,61	5,51

Means in the four questionnaires (ICAT, LSS, CPII, GEQ) are registered in table 2. Values in the Coach's Ansiogenic Behaviours Inventory are between 1.61 and 2.66. Communication have the higher values in all sports, and most of the lowest are in Antagonism and Tension. In what concerns LSS, the highest values are in Instruction and Reward. Autocratic behaviours are the decision style where we find the lowest results. CPII results regarding Swimming is 130 (maximum:161). In GEQ, there are differences concerning the order of the dimensions in Corfeball and Voleyball.

TABLE 3. Correlations ICAT/LSS and ICAT/CPII

	Rew			Ins			SS			Aut			Dem			CPII
	Fut	Gym	Han	Fut	Gym	Han	Fut	Gym	Han	Fut	Gym	Han	Fut	Gym	Han	Swi
Ant	*-.25*	.06	*-.23*	-.08	-.11	-.06	-.12	*-.23*	*-.28*	.11	.06	*.18*	*-.27*	-.16	-.12	*-.29*
Co	*-.36*	-.04	*-.22*	-.03	-.24	-.10	*-.21*	*-.34*	*-.21*	.14	.20	*.15*	*-.37*	-.16	-.13	*-.28*
Dec	*-.32*	-.04	*-.31*	-.08	-.03	-.12	*-.20*	-.19	*-.32*	.09	.13	*.21*	*-.25*	-.20	*-.17*	*-.29*
Ten	*-.37*	.08	*-.20*	*-.27*	-.04	-.10	.07	-.08	*-.23*	*.19*	-.03	*.16*	*-.20*	-.12	-.10	*-.20*
Tot	*-.39*	.01	*-.25*	-.05	-.12	-.09	*-.21*	*-.25*	*-.29*	.12	-.11	*.21*	*-.22*	-.18	-.15	*-.30*

italic : significative correlations (p=.05)

Table 3 shows the correlations between CABI and each of the questionnaires regarding the coach. We can see that the coach's ansiogenic questionnaire mostly correlate significatively with Reward and Social Support, concerning the leadership behaviours of the coach. In all cases correlations between CABI and Autocratic dimension of LSS is positive, while they are negative with Democratic behaviours. CABI also correlates significatively and positively with the image of the coach evaluated by CPII.

TABLE 4. Correlations ICAT/GEQ

	A T G - T		A T G - S		G I - T		G I - S	
	Cor	Vol	Cor	Vol	Cor	Vol	Cor	Vol
Ant	*.26*	*-.27*	.00	.05	.07	-.15	.06	.07
Com	*.31*	-.17	-.03	.12	.07	-.10	.10	.02
Dec	.23	*-.23*	-.01	.08	-.03	-.14	-.01	07
Ten	.04	*-.23*	-.07	.06	-.02	-.13	.12	07
Tot	*.25*	*-.24*	-.02	.08	.01	-.13	.06	.05

italic : significative correlations (p=.05)

In table 4 we can find the values of correlations between CABI and GEQ, where we verify that coach's ansiogenic behaviours only correlate significatively with individual attraction to group concerning the task. We also observe in corfeball and voleyball that correlations generally have opposite directions.

DISCUSSION AND CONCLUSIONS

Coaches seem not to be too ansiogenic, in consonance with the function they are supposed to have. Anyway, they still have lower values in individual sports, which may be explained by the closest

contact, and perhaps better knowledge they have regarding their athletes. Results in LSS confirm previous studies (Chelladurai, 1993; Serpa, 1992), where Instruction and Reward dimensions use to have the highest values and, although autocratic behaviours tend to be the less frequent compared to democratic ones, this is not clearly defined. Apparently, cohesion is stronger in voleyball compared to corfball, which can be connected to the fact that this sport is a mixed one. Results also suggest that the individual attraction to social aspects is more important than attraction to the task, but the perception of integration in the group is higher regarding the task, than social factors.

In general, correlations between coaches' ansiogenic behaviours and leadership behaviours of the coaches, show the tendency of having negative values in what concerns to Reward, Instruction, Social Support and Democratic, as well as positive values in Autocratic dimension. In the collective sports, more significative correlations are verified compared to artistic gymnastics. These results lead us to suggest that ansiogenic behaviours decrease with all behaviours evaluated by LSS, except with Autocratic behaviours. Furthermore Reward and Social Support dimensions, seem to be the most significative ones, regarding the inverse relationship with the ansiogenic behaviours.

The coach's image perceived by the swimmers is very positive, considering that values range from 23 to 161, and in our study mean is 130. Negative and significative correlation also denotes that the less ansiogenic the coach is, the better image is perceived by subjects.

Results in GEQ are somehow contradicting, suggesting the need of more research, in order to enable us to reach to reliable conclusions. However, it seems that coaches' ansiogenic behaviours are mostly related to the individual attraction to the group concerning the task.

In conclusion, the coach's ansiogenic behaviours are related to his/her leadership behaviours and to the image perceived by athletes. There is a relationship between those behaviours and some dimensions of group cohesion. These results lead us to conclude that social climate in the sport process is closely connected to the ansiogenic behaviours of the coach, who needs to pay attention to his/her emotional impact in the

athletes, in order to promote a favourable climate and have a positive influence in sports performance.

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THE ATHLETE-COACH RELATIONSHIP WITHIN THE CONTEXT OF THE ATHLETIC TRIANGLE

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1. Introduction

The interpersonal relationships in the 'athletic triangle' (i.e. athlete-parents-coach) are very influential on young elite athletes' development and level of performance (Hellstedt, 1987/1995; Rosenfeld, Richman, & Hardy, 1989). However, few studies have actually been explicitly devoted to these interpersonal relationships within the athletic triangle. Furthermore, it was found that in general the athletes' point of view on these relationships was never studied in a systematic and coherent way (Wylleman, Sloore, Vanden Auweele, & De Knop, 1994). A research project was therefore conducted which assessed *elite young athletes' perceptions* of *all relationships* in the athletic triangle, that is, their relationships with their parents and coaches, and the parents-coach relationships. The present study presents the data on elite young athletes' perceptions of their relationship with their coaches.

The centrality of the coach is a firmly entrenched component of most competitive sports (Watson, Blanksby, & Bloomfield, 1984). The coach has been awarded importance as the decisive factor in regulating the social-emotional climate (Liukkonen, Salminen, & Telama, 1992), as role models for athletes (Estrada, Gelfand, & Hartmann, 1988), as influences of athletes' outcomes of participation, performance, social development, self-esteem, and enjoyment (Lee, 1986; Sack, 1980; Scanlan & Lewthwaite, 1986; Smith, Smoll, Curtis, & 1979; Smoll, 1986). However, our review of the literature showed in first instance that little or no empirical data was available on athletes' perceptions of their relationship with the coach. Secondly, most studies on the athlete-coach relationship identified the content in function of two specific instruments, i.e., the Leadership Scale for Sports (LSS), and the Coaching Behavior Assessment System (CBAS). Focussing on the LSS as self-report method, specific criticism was leveled to the content of the relevance of its subscales to describe the actual content of the athlete-coach relationship: (a) it was developed and evaluated in the context of the coach-team relationship, rather than the coach-athlete relationship, and (b) its subscales lacked possibly negative contents of coach behaviour toward the athletes. The need for a sport-specific

measure of the athlete-coach relationship as perceived from the point of view of the athlete, which taps the aspects of this relationship which are *not* related to coach effectiveness or his/her task-oriented behaviour, lead to development of the Sport Interpersonal Relationships Questionnaire - Athlete-Coach (SIRQ-AC). This questionnaire was designed as a measure that taps specifically the *relationship-oriented or socio-emotional* aspects of the athlete-coach relationship (Willis & Campbell, 1992), such as the coach's concern for the well-being of the athlete, the athlete's expectations for a supportive attitude from the coach, the athlete's willingness to have a friendly relationship with the coach outside of the sport context.

The present study will provide, by way of describing the construction of the SIRQ-AC, empirical data on the dimensions elite young athletes use themselves to evaluate their relationship with their coaches.

2. Construction of the Sport Interpersonal Relationships Questionnaire - Athlete-Coach

2.1. Phase of development

Throughout the first phase of the construction, specific steps were taken to provide content- (and especially, face-) validated items (Murphy & Davidshofer, 1991) (e.g., in the selection of sources for generating item pools, in the format). The selection of sources for generating item pools was based on research by Vanden Auweele and Van Herzeele (1989), and by Vanden Auweele, Van Mele, and Wylleman (1994). Item pools were developed on the basis of the 'Vragenlijst Interpersoonlijke Relaties - Ouders-Kinderen' (VIR-OK) [Questionnaire Interpersonal Relationships - Parents-children] by Vertommen and Somers (1980) and Vertommen and D'hondt (1984). The VIR-OK is a Dutch questionnaire, which assesses the relationships between 12 to 18 year-old children and their parents in two sets (i.e., one for the adult->child relationship, one for the child->adult relationship) of eight dimensions (for the adult->child relationship: e.g., dominance, acceptance, helpfulness; for the child->adult relationship: e.g., assertiveness, obedience, inferiority). The VIR-OK was chosen as it included items which (a) assessed an interpersonal relationship from the subject's point of view, and (b) related to the child-adult relationship. As the athlete-coach relationship can be compared to the child-parent relationship - in which the coach assumes the roles of, among others, parent, disciplinarian, developer of character, friend (Gould, 1987; Martens, 1981; Smoll & Smith, 1987) - the VIR-OK was deemed acceptable as the basis for the construction of the SIRQ-AC. To ensure the sport-specificity of the item pools, items were also included from (a) two questionnaires on under-achievement in sport (Desmedt, 1984; Van Looveren, 1986), and (b) qualitative data stemming from interviews and essays with young athletes, and interviews with parents and coaches. This process resulted in two item pools, each containing 40 items describing eight dimensions of interpersonal relationships relevant for the athlete-coach relationship. In order to ensure the 'logical' or 'face' validity of the generated items, two steps were taken: (a) items were formulated as much as possible using the wordings of the

athletes, (b) a panel of 3 experts (two sport psychologists and one physical educator, all involved in youth sport research) rated the items on their appropriateness to assess an athlete's perception of a particular relationship within the athletic triangle. Items were retained, or modified according to the experts' remarks. As the SIRQ questionnaires were aimed at assessing the perception of relatively young athletes (i.e., a lower bound of 12 years) of their relationship with their coach, their format was based on the following criteria: (a) they had to include understandable items for children and youths, (b) they could only take a relatively short period of time to complete, (c) they should provide an unambiguous procedure for completing the questionnaire, (d) their response format had to be easily understood, and (e) they had to enhance a minimisation of response sets (i.e., social desirability, random responding, dissimulation) or response style. In order to restrict the time a subject would need to complete all relevant questionnaires, and keeping in mind the lowest age-limit of subjects (i.e., 11/12 years), the number of items remained restricted to five per dimension, consistent with the format of the VIR-OK. This number was deemed sufficient to tap the different dimensions of interpersonal relationships, as well as being still manageable for subjects to complete. The response format, similar to that of the VIR-OK, consisted of two five-point scales, anchored by 'never' (1) and 'always' (5), allowing subjects to respond to the item as they perceived it *actually to be*, as well as they *would like it to be*. This response format was deemed to be a first step in minimising subjects' social desirability, as they were able to differentiate their answers to an item as it actually was, as well as how they thought personally how it should be, or how it was socially desirable to be. No social desirability or lie scales were included in the new questionnaires, since their success is reported to be equivocal (Martens, 1982; Murphy & Davidshofer, 1991). Finally, appropriate instructions were formulated so that (a) subjects could easily complete the questionnaires on the basis of these instructions, and (b) subjects' tendencies to specific response sets (e.g., social desirability, dissimulation) or response style would be minimised (e.g., by stating that there are no right or wrong answers). The introductory statement to the questionaire was also formulated in such a way that it would reassure subjects regarding the fact that it is not always easy to assess people, whom they liked and with whom to interacted a lot. Table 1 provides some examples of items of the SIRQ-AC questionnaire.

Table 1. Examples of items of the SIRQ-AC.

SIRQ-AC Athlete towards the coach	SIRQ-AC Athlete on the coach towards him/her
I frankly give my opinion to my coach	The coach encourages me during a competition
I get along very well with my coach	The coach respects my personal opinion
I am very attentive when my coach explains something to me	The coach is very concerned about me

2.2. Phase of evaluation

The preliminary version of the SIRQ-AC was presented to a first sample of subjects (Sample 1) consisting of 265 12 to 29 year-old (*M*: 17.5 years; *sd*: 3.6 years) athletes (51.4% male, 48.6% female) competing at national (66.4%) or international level (33.6%) in track and field (43.9%), swimming (15.5%), aquatic sports (canoe, kayak, rowing, sailing) (13.4%), racket sports (tennis, squash) (10.9%), martial arts (judo, wu-shu) (9.2%), triathlon (5.4%), and miscellaneous (cycling, golf, gymnastics, powerlifting) (1.7%). On average, these athletes trained 10.6 hours per week (*sd*: 3.19 hours), and participated in 2.5 national training camps and 26.4 (inter)national competitions per year. Researchers were introduced to the group of athletes present at the training camp to whom they gave a brief description on the purpose of the study. In order to prevent subjects' drop out, social desirability and dissimulation, emphasis was put on the fact that subjects' responses would be kept confidential, and that they would not be used in any sort of selection procedure, so that in fact, there were no good or bad answers. Participation in the study was voluntary.

A. Validity of the SIRQ-AC ([1])

In first instance the *construct validity* of the SIRQ-AC was determined by firstly testing the hypothesis that the dimensions or factor structures of the VIR-OK would be representative for the dimensions athletes use to evaluate their relationship with their coaches. As the analysis of the skewness, mean, median and standard deviations of the subjects' responses revealed good variability in the pattern of responses, the data was subjected to a hypothesis testing factor analysis using the PROCRUSTES program (Cattell, 1978; Hurley & Cattell, 1962) in which a goodness of fit of ≥.80 for all factors, as expressed by Tucker's index of congruence, was put forward to accept the dimensions of the VIR-OK. However, as no factor structure reached acceptable levels of congruence, it was concluded that the young athletes did not perceive their relationship with their coaches using the VIR-OK dimensions. The data was secondly subjected to an exploratory factor analysis (EFA) (VARIMAX with orthogonal rotation) using the common factor model to identify the common factors or dimensions underlying the subjects' data. The number of factors was determined by four criteria (i.e., Eigenvalue≥1, explaining ≥5% of the variance, Scree-test, and psychological interpretability and relevance), while the underlying dimensions were identified and given an interpretation on the basis of variables with loadings ≥.30. The resulting factorial scales were then analysed on their internal consistency using Cronbach's (1951) alpha reliability coefficient (minimum level: alpha≥.60) in a Gulliksen iterative item analysis (Verhelst & Vander Steene, 1972). Six factorial scales or dimensions with acceptable interscale correlations were identified. Table 2 provides a description of the

[1] The construct, content, and concurrent validity of the SIRQ-AC were established. This paper will only present the results of the construct and (partially) of the concurrent validity. For a discussion of the content validity and for a complete overview of the concurrent validity of the SIRQ-AC, we refer to Wylleman et al. (1995).

contents of the SIRQ-AC scales. The content is described for a subject scoring high on that particular scale.

Table 2
Description of the content of the scales of the SIRQ-AC.

Point of View	Dimension (Abbreviation)	Description content[a]
Athlete->coach	Closed attitude (ACCA)	The athlete behaves in a negative and detached way, while even possibly avoiding contact due to feelings of distrust or inferiority.
	Acceptance of coach (ACCO)	The athlete behaves in an attentive way, while trusting and following closely the coach's advice, and asking for more advice if not knowing what to do.
	Assertivness (ACAS)	The athlete behaves in an assertive way, speaking freely his/her mind to the coach, remaining on his/her point of view in discussions with the coach.
Athlete<-coach	Caring behavior (CACB)	The coach's behavior is perceived as showing an interest in, appreciation for, and an active willingness to help the athlete.
	Criticizing and negative attitude (CACR)	The coach's behavior is perceived as being very critical of the athlete, with the coach sometimes becoming angrily, possibly resulting in a conflict between coach and athlete.
	Permissiveness vs. Restrictiveness (CAPR)	The coach's behavior is perceived on the one hand as permissive, indulgent, and easy going, or on the other hand as restrictive, authoritarian, and hard-nosed.

Table 3 reveals that these elite young athletes perceive their coaches' generally behaving in a caring way, sometimes wavering between permissiveness and restrictiveness, and seldom in a criticizing and negative way. These scores reveal in general a balanced athlete-coach relationship in which both actors behave in general in a positive, and caring way.

Table 3
Subjects' scores on the dimensions of the SIRQ-AC.

Point of View	Dimensions	N	Mean[a]	Std Dev
Athlete->coach	Closed attitude	235	1.75	.57
	Acceptance	237	4.23	.53
	Assertiveness	240	2.40	.61
Athlete<-coach	Caring behavior	221	3.95	.67
	Criticizing and negative attitude	237	1.36	.63
	Permissiveness vs. Restrictiveness	228	2.70	.55

[a] Score on a five-point rating scale: 'never' (1), 'seldom' (2), 'sometimes' (3), 'often' (4), and 'always' (5).

Table 4 provides an overview of the number of items and Cronbach's α per scale, as well as the inter-scale correlations. It revealed in general accaeptable inter-scale correlations. These were, on the one hand, low or non-significant, or on the other hand, moderate to high for the Closed attitude and the Acceptance scale and for the Caring behavior and the Criticizing and negative attitude scales. These scales correlated however in the expected direction.

Table 4
Inter-scale correlations, number of items, and Cronbach's α of the scales of the SIRQ-AC.

Scales	Form Athlete->coach			Form athlete<-Coach			Number of items	Cronbach's α	Item to Total r range
	ACCA	ACAC	ACAS	CACB	CACN	CAPR			
ACCA	-						14	.88	.50-.72
ACAC	**-.56**[e]	-					8	.83	.58-.75
ACAS	**.16**[b]	**-.19**[c]	-				5	.66	.52-.74
CACB				-			16	.91	.56-.76
CACN				**-.37**[e]	-		7	.79	.62-.74
CAPR				**-.03**[a]	**-.04**[a]	-	9	.69	.40-.62

Note. ACCA=Closed attitude; ACAC=Acceptance of coach; ACAS=Assertiveness; CACB=Caring behavior versus Negligence; CACN=Criticizing & negative attiude; CAPR=Permissiveness versus Restrictiveness. The correlations of the scales of the same form are printed in bold.
[a]n.s.; [b]$p<.05$; [c]$p<.01$; [d]$p<.001$; [e]$p<.0001$

This phase of evaluation was concluded with a final version of the two forms of the SIRQ-AC, each consisting of three scales, and containing a total number of respectively 27 and 32 items.

In second instance, the *concurrent validity* of the SIRQ-AC was determined by establishing its convergent validity. The SIRQ-AC (form athlete<-coach) was therefore concurrently presented with a Dutch-version of the Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1978) to a second sample of subjects (Sample 2) which consisted of 89 17-23-year-old students (M=18.4 yrs.; 46.6% female, 53.4% male) physical education and fysiotherapy participating in 14 sports for an average of 7.6 years at different competitive levels (6.9% sub-national, 87.4% national, 5.7% international). The LSS was chosen because it was shown to be a reliable and valid instrument for assessing the athlete-coach relationship (Chelladurai, 1993; Horn, 1992).

Table 5
Descriptive statistics of, and correlations between the scales of the SIRQ-AC (form Athlete<-coach) and of the LSS (N=89).

	Training-Instruction	Democratic Behavior	Autocratic Behavior	Social Support	Positive Feedback
Caring behavior	0.78[e]	0.57[e]	-0.49[e]	0.70[e]	0.52[e]
Criticizing & neg. at.ti.	-0.24[b]	-0.19[a]	0.43[e]	-0.17[a]	-0.21[a]
Permissive-Restrictive	-0.44[e]	-0.04[a]	-0.09[a]	-0.11[a]	-0.29[c]

[a]not significant [b]p<.05 [c]p<.01 [d]p<.001 [e] p<.0001

The results in Table 5 provides some support for the convergent validity of the SIRQ-AC. As could be expected, the Caring behavior correlates positvely and significantly with the LSS Social support, Democrative behavior, Positive feedback, and negatively with the Autocratic behavior. Surprisingly, it correlated also highly and significantly with the LSS's Training and Instruction. This could be indicative of the fact that young athletes perceive coaches who

provide adequate training and instruction to be a sign of showing a personal interest in them. As expected, the Criticizing and negative attitude scale correlates positively and significantly with the autocratic scale of the LSS, and negatively but not significantly (except for the 'Training and instruction' scale) with all other LSS scales. Finally, the 'Permissiveness vs. Restrictiveness' scale also shows a moderate negative and significant correlation with Training and instruction. As a high score on the Permissiveness vs. Restrictiveness scale reflects young athletes' perception of coaches being highly permissive, this correlation seems to confirm that these young athletes do not find a 'laissez-faire' coaching style compatible with the task-oriented role of coaches. These results provided in general support for the concurrent validity of the SIRQ-AC (form athlete<-coach) ([2]).

B. Reliability of the SIRQ-AC

The second phase in the evaluation of the SIRQ-AC consisted of determining its reliability. Two types of reliablity were established, namely, the index of inter-item consistency or of homogeinity, and a test-retest reliability coefficient. As was shown, the scales were found to have acceptable α-coefficients, that is four scales with α's >.79 and two scales with α's respectively at .66 and .69. The test-retest coefficient was determined by presenting the SIRQ-AC twice to the same group of subjects (i.e., Sample 2) over a four-week time interval. This time interval was consistent with other research on interpersonal relationships in sport (e.g., Chelladurai & Saleh, 1980). Table 6 shows the test-retest reliability of all SIRQ-AC scales to be above the accepted .60 criterion (Carmines & Zeller, 1985; Nunnally, 1978). These results indicate that athletes' perceptions of their relationship with their coaches, as operationalized by the SIRQ-AC, are fairly stable across a four week interval.

Table 6
Test-retest correlations for the scales of the SIRQ-AC (N=58).

Scales	
Closed attitude	.72[e]
Acceptance	.69[e]
Assertiveness	.79[e]
Caring behavior	.83[e]
Criticizing and negative attitude	.63[e]
Permissiveness vs. restrictiveness	.77[e]

[a]not significant; [b]$p<.05$; [c]$p<.01$; [d]$p<.001$; [e]$p<.0001$

[2] For the convergent validity of the SIRQ-AC (form athlete->coach), as well as for the divergent validity of both forms of the SIRQ-AC with the Anxiety Thermometer (Houtman & Bakker, 1989), we refer to Wylleman et al. (1995).

3. Athletes' perception of the athlete-coach relationship within the athletic triangle

In order to determine in what way these elite young athletes' perceptions of their relationship with their coaches associated with their perceptions of their relationships with their parents (as assessed by the SIRQ-Athlete-Parents) and of the relationship between their parents and coaches (as assessed by the SIRQ-Athlete on Parents-Coach), the scales of all three questionnaires were subjected to a principal component factor analysis with VARIMAX rotation ([3]). This analysis revealed four factors or 'types of interactions', of which two factors contained athlete-coach dimensions. The first type of interaction was labelled 'Positive athlete-coach-parents relationships' and reflected athletes' perceptions of a mutual consultative relationship between parents and coach related to athletes' perceptions of a positive relationship with their coaches. However, no specific type of relationship between athletes and their parents is revealed. The second type of interaction, labelled 'Negative athlete-parents-coach relationships', showed that athletes' perceptions of coaches' inferior attitude toward the parents, and of parents' negative attitude toward the coaches, was related to athletes perceiving their relationship with their coach in negative terms (i.e., coach's criticizing and negative attitude, and athletes' assertiveness).

4. Conclusions

These elite young athletes' perceptions of their relationship with their coaches does confirm earlier research which identified the coach as a 'benevolent-autocrat' (Vanden Auweele, Van Mele, Wylleman, 1994), that is, a generally caring, but sometimes restrictive or criticizing. This concurs with the literature on leadership, which accentuates that leader effectiveness is a mixture of a task-oriented and a relationship-oriented motivational style adapted to the situation in which the interaction takes place (ASEP, 1994; De Knop, Wylleman, Theeboom, De Martelaer, Van Puymbroeck, & Wittock, 1994; Martens, 1990; Rotella & Bunker, 1987; Seefeldt, 1987; Smith, Smoll, & Smith, 1989; Willis & Campbell, 1992). Moreover, the SIRQ-AC provides detailled data on the way elite young athletes themselves behave toward their coaches. Athletes' scores suggest that they perceive their relationship with their coaches to be balanced, that is, to provide the emotional support as they themselves expect. Finally, these results revealed also that, although no causality was inferred, that elite young athletes perceive their relationship with their coaches to be related with the quality of the relationships between their parents and coaches.

5. References ([4])

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[3] See Wylleman et al. (1995) for a more detailled description of this analysis.

[4] A complete list with the references used in this paper can be obtained from the first author: Wylleman P., Topsport en Studie, L405-HILOK, Vrije Universiteit Brussel, B1050 Brussel, Belgium.

S.2.3. PSYCHOLOGY AND SPORT INJURY

Chairperson : E. APITZSCH

PREDICTORS OF PERCEIVED SPORT INJURY REHABILITATION STATUS

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KEY WORDS

Psychology, Sport Injury, Rehabilitation, Cognition

INTRODUCTION

The psychology of sport injury rehabilitation is a topic of growing interest (Heil, 1993; Pargman, 1993). According to contemporary models of psychological adjustment to sport injury, cognitive appraisals are thought to influence emotional and behavioral responses to sport injury (Brewer, 1994). Empirical support for this position has been obtained in several studies (Crossman & Jamieson, 1985; Daly, Brewer, Van Raalte, Petitpas, & Sklar, 1995; McDonald & Hardy, 1990; Smith, Young, & Scott, 1988). One particular type of cognitive appraisal, perceived rehabilitation status (i.e., perceived recovery progress), has been negatively correlated with postinjury emotional disturbance (McDonald & Hardy, 1990; Smith, Young, & Scott, 1988).

Given the potential importance of cognitive interpretations of rehabilitation status in emotional reactions to sport injury, the purpose of this study was to identify predictors of perceived sport injury rehabilitation status. Predictor variables in this investigation were sport rehabilitation practitioner perceptions of rehabilitation status, psychological distress, and selected situational/contextual factors theoretically linked to appraisals of sport injury rehabilitation progress (i.e., pain, number of rehabilitation sessions attended, and time since injury).

METHOD AND PROCEDURE

Participants

Participants were 115 consecutive patients undergoing rehabilitation at a sports medicine clinic who identified themselves as involved in sport at the recreational or competitive level.

Measures

During a regularly scheduled physical therapy appointment, participants estimated their percentage of total physical rehabilitation on a scale ranging from 0% to 100% (McDonald & Hardy, 1990), rated their pain on a scale ranging from 0 (no pain) to 10 (pain as bad as it can be) (Jensen, Karoly, O'Riordan, Bland, & Burns, 1989), and completed the Brief Symptom Inventory (BSI) (Derogatis, 1992), a standardized measure of psychological distress. The physical therapists and athletic trainers responsible for the rehabilitation of participants rated participants' percentage of total rehabilitation on a scale ranging from 0% to 100% (McDonald & Hardy, 1990), indicated the number of rehabilitation sessions attended by participants, and provided the date of the injury for which participants were receiving treatment.

RESULTS

Complete data sets were obtained for 79 participants. Means and standard deviations of measured variables are displayed in Table 1.

Predictors of Perceived Sport Injury Rehabilitation Status

Pearson correlations indicated that physical therapist/athletic trainer (PT/AT) ratings of rehabilitation status ($r = .53$, $p < .001$), pain ($r = -.35$, $p < .005$), and number of rehabilitation sessions attended ($r = .20$, $p < .05$) were significantly associated with participants' ratings of rehabilitation status. Time since injury ($r = .09$, $p > .05$) and

psychological distress ($r = -.07$, $p > .05$) were not significantly correlated with patients' ratings of rehabilitation status.

A multiple regression analysis was conducted in which PT/AT ratings of rehabilitation status, pain ratings, number of rehabilitation sessions attended, time since injury, and psychological distress were used to predict participants' ratings of rehabilitation status. The overall regression equation was statistically significant, $F(5,73) = p < .0005$. Significance tests performed on the regression coefficients revealed PT/AT ratings of rehabilitation status as the sole significant predictor of participants' ratings of rehabilitation status (beta = .46, $p < .0005$).

TABLE 1. Means and Standard Deviations of Measured Variables

Variable	M	SD
Perceived rehabilitation status (participant)	56.70	25.94
Perceived rehabilitation status (PT/AT)	61.28	22.95
Pain	3.23	2.38
Psychological distress (BSI)	0.34	0.38
Rehabilitation sessions attended	11.05	12.98
Time since injury (months)	18.00	48.42

Note. $N = 79$

DISCUSSION AND CONCLUSIONS

Consistent with current theory on psychological adjustment to sport injury (Brewer, 1994), the findings of this study suggest that injured sport participants tend to perceive themselves as more fully rehabilitated as they experience less pain and attend more rehabilitation sessions. However, the results of the regression analysis imply that injured sport participants' perceptions of rehabilitation status are influenced primarily by sport rehabilitation professionals' perceptions of rehabilitation status. This finding can be interpreted as evidence of the critical role played by sports medicine personnel in

facilitating both physical and psychological rehabilitation of sport injuries.

Contrary to previous research (McDonald & Hardy, 1990; Smith, Young, & Scott, 1988), psychological distress was not associated with perceived rehabilitation status. This discrepancy may be attributable to differences in instrumentation and research design. The present study used the BSI (Derogatis, 1992) to measure psychological distress and employed a cross-sectional design; the previous investigations used the Profile of Mood States and were longitudinal (POMS; McNair, Lorr, & Droppleman, 1971).

The results of this study provide information on potential determinants of perceived sport injury rehabilitation status. However, because of the cross-sectional design used in this investigation, future longitudinal and experimental research is needed to evaluate the extent to which appraisals of recovery progress exert a causal influence on affective and behavioral outcomes in sport injury rehabilitation. Such inquiry should foster a greater understanding of the role of psychological factors in the rehabilitation of sport injuries.

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EXPERIENCE OF LONG TERM INJURY IN ATHLETIC SPORTS

A study of psychological risk factors during rehabilitation

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KEY WORDS: Appraisal, cognition, coping, sportinjury, stress.

INTRODUCTION

Physical activity, with moderate strain on the body and without competitive elements, is meant to be healthy (e.g. Tucker,1990). Competitive athletes, however, aim at defeating an antagonist with all means, preferably within the system of regulations made up in advance. Due to improved material and social status, which is the result of an athletic success, many athletes strain themselves to a limit touching an unhealthy condition, often resulting in bodily harm. The body movement functions, i.e. muscles, joints and ligaments, cannot stand the extreme strains the body is exposed to. One example is Swedish football players at elite level (both men and women), where approximately 3/4 get injured some time during a football season. Most injuries concern the lower extremities, where knee- and ancle joints injuries dominate. Approximately 3/4 of the injuries are of traumatic nature. Of these, every 6th or 7th injury is considered severe, i.e. >1 month absence from physical activity (e.g. Engström et al, 1991). An increasing frequency of injuries has also been observed at a lower competition and exercising level (the Folksam Report on Sport Injuries, 1994). A number of studies also show that sport injuries, especially during the competition season, are ranked as highly psychologically stress inducing by the competitive athletes (e.g. Pargman,1993).

A large number of athletes return relatively quickly to full physical capacity after an injury. A smaller group, however, experience large physical and psychological problems during rehabilitation, which delay the return to training and competition. In a study, carried out by Johnson (1993), reports from 37 sport injury surgeries in Sweden show a proportion of 5-6 % of the total number of athletes seeking treatment at the sport injury surgeries, showing signs of a marked physical/psychological imbalance. Other studies have also shown signs of physical/psychological imbalance and difficulties in the ability to mentally handling injuries or diseases (e.g. Fordyce,1976).

Previous studies of psychological behavioural pattern with injured athletes have partly been concentrating on quantification of psycho-social risk factors before, during or after injury. Often the data originate from questionnaires or forms, like Athletic Life Events Scale and Profile of Mood State. Worth mentioning from these are low self-esteem, a scantily developed social network and a high degree of tension (Chan & Crossman, 1988; Gordon, Milion & Grove, 1991; Smith, Smoll & Ptacek, 1990).

Another research tradition has, using qualitative data, examined the injured persons experiences of rehabilitation. A broadened understanding of *the experience* of injury is emphasized. According to this research perspective, Andersen & Williams (1988) constructed a Stress- and Athletic Injury Model, aiming at identifying different variables possible to predict a sport injury. The model has raised much interest and generated a number of studies which all support its use in sports (Blackwell & McCullagh, 1990; Hardy & Riehl, 1988). A modified version of the Andersen & William model, with special focus on the cognitive experience of the sport injury, could be used as a discriminating instrument to identify risk factors, during the time of rehabilitation after the injury.

METHODS AND PROCEDURE

Subjects

81 athletes, all on competitive or elite level participated in the study. All of them suffering from injury caused by sport activity. All subjects either consulted physiotherapy spontaneously or were referred to therapy administrated by physiotherapists specialized in sport injuries. All subjects participated in the study without any compensation. Inclusion critera for participation in the study were defined to; minimum 5 weeks inability to train and compete in any sport activity on a senior level (>18 years). During the study, 4 patients dropped out mainly due to serious and complex injuries, leaving 77 long term injured athletes in the study. The mean age of the sample was 24.4 years (SD=5.3). Data were collected on three occasions during the rehabilitation period. The first occasion coincides with the first visit to the surgery, the second with the termination of active therapy and the third approximately 15 months later. All data were collected between February 1992 to September 1994. For comparison, data from a sample of 64 noninjured athletes with a mean age of 24.4 (SD=5.8) were collected.

Tests and Instruments

On the first occasion, normally the startingpoint of rehabilitation, two standardized self rating scales were administered and data from a personal interview and a sport injury questionnarie (SIQ:1) were collected. On the second occasion, at the end of the active rehabilitation, one of the rating scales (MACL) was once more administered. At this point in the rehabilitation process, the status of each athlete was evaluated on a diagnostic check-list (DCL:2) by the treating physiotherapist. On the final occasion, approximately 15 months after the active theraphy was ended, an interview (by telephone) with all the subjects concerned was carried out.

Mood Adjective Check-List (MACL), is a scale consisting of adjectives distributed on 6 bipolar dimensions. Normative data are available from some 500 Swedish men and women. Cronbach alpha is calculated to 0.88 (Sjöberg et al, 1979).

Allmänt Copingformulär (AC), is a self-rating scale designed to identify and measure various strategies in coping with stress. Cronbach alpha is calculated to 0.70 (Persson, 1985).

Sport Injury Questionnaire 1 (SIQ:1), contains 44 questions in 7 categories.

Interview. The semi-structured interview focuses primarly on the Lazarus & Folkman cognitive appraisal theory (Lazarus & Folkman, 1984).

Diagnostic Check-List 2 (DCL:2), is a list of questions focused on the result of the individual rehabilitation process as judged by the physiotherapist. Each item serves as a componenet in the evaluation or general impression of the individual recovery following the injury.

Interview by telephone. Approximately 15 months after the active therapy was ended, each patient was contacted by telephone. The interview focused on 5 main topics concering long-term effects of injury.

RESULTS

The first step in the analysis of possible differences in psychological characteristics between the injured athletes as a group (n=81) and the reference group (n=64) is of course a screening of differences in measured parameters between the groups (t-test). This statistical operation can be carried out in the form of a discriminant analysis (DFA) technique.

TABLE 1. A summary of stepwise DFA analysis between groups of injured/noninjured athletes.

Groups	Scales	Parameters	Stand. disc. func. coeff.	Wilk's Lambda	p
All injured vs non-injured	MACL	Hedonic tone	1.00	.95	.008**
	AC	Problems ahead/ coping	-.70	.92	.003**
	AC	Seeking prof. help	.87	.95	.012*

* $p \leq .05$, ** $p \leq .01$.

The DFA-analysis points out that injured athletes as a group - not surprisingly - are characterized by low mood, low ability to master or cope with problems ahead, and are more apt to seeking professional help than the reference (non-injured) group.

The next step in the analysis of sequels of long term injury in athletes will be to combine the final result or outcome of the rehabilitation effort (measured by the items in the phone interview) and the individual evaluation or opinion expressed by the treating therapist at the end of active physiotherapy.

TABLE 2. Physiotherapist's opinion vs actual outcome (athletes report).

Groups	**End of treatment** Physically fit/ restored	**15 months later** Active on a 1.0 level	Active on a 0.5 level	Inactive	n
A	Yes	Yes	-	-	38
B	Yes	-	Yes	-	15
C	Yes	-	-	Yes	7
D	No	-	-	Yes	9
E	No	Yes	-	-	5
F	No	-	Yes	-	3

Two small clusters of individuals in particular seem to be of interest because of their unexpected appearance. According to the phone interview, athletes in group C (n=7) report not being able to return to sporting, even at 0.5 basis, in spite of a positive record by the physiotherapist at the end

of the treatment. In the same way, surprisingly group E (n=5), for some optimistic, or even heroic reason, is still active on 1.0 level in their main sport, even though they have a pessimistic record at the end of the theraphy. The athletes constituting group D and E seem to differ in a striking way as to their ability to master difficulties.

Yet another step towards detecting possible characteristics invalidating the rehabilitation efforts might be to take a closer look into the interview data trying to reveal the significance and impact of being subjected to injury on a personal level.

TABLE 3. Classification of interview.

Groups	**SPORT-INJURY:** Impact on present life		Impact on a personal well-being		Quality			n
	Yes	No	Stress	Irrelevant	Threat/ Anxiety	Challenge	T/A-C mix	
1	Yes	-	Yes	-	-	-	Yes	39
2	Yes	-	Yes	-	-	Yes	-	16
3	Yes	-	Yes	-	Yes	-	-	10
4	-	No	Yes	-	-	-	Yes	5
5	-	No	-	Yes	-	-	-	4
6	-	No	-	-	-	Yes	-	3

From table 3 it is obvious that the athletes in group 3 more often than others report the injury to have a huge impact on their present life situation, mostly in a stressful way. This group is distinguished by reacting with feelings of threat and anxiety as a response to being inactive. When comparing the three main groups (1, 2 and 3) as to the actual physical activity, it turns out that 60% of group 3 (6 patients) are inactive despite good physical status compared to only 36 % in group 1 (14 patients) and 37 % in group 2 (6 patients).

In order to test whether there is a difference between the small group of 6 athletes in group 3 (table 3), who react on the injury in a stressful way, experiencing threat and anxiety, responding with inactivity though in good physical condition, and the rest of the sample, a comparison should be made. Tentatively the small group could be labeled "*individuals at risk*".

TABLE 4. Individuals at risk (n=6) vs the rest (n=71).T-test (two-tail).

Scale	Parameter	Riskgroup M	SD	The rest M	SD	T-value
MACL	*Hedonic tone* (measure 1)	2.40	.70	3.13	.45	.041*
MACL	*Hedonic tone* (measure 2)	2.31	.54	3.21	.43	.049*
AC	*Selfconfidence*	2.19	.33	2.84	.39	.047*
AC	*Seeking social support*	3.29	.40	2.89	.50	.0099**

* p≤ .05, ** p≤ .01

From the table above it seems evident that the small group (n=6) of "individuals at risk" differ in some aspects from the rest of the sample. Measures of hedonic tone differ from those of the rest, not only at the starting point of the physiotherapy but also at the end of it. The individuals of this group also seem to have a higher degree of vulnerability and a stronger urge to rely on external support. With these characteristics in mind it could be of interest to see whether this group differs as to ideas and planning for a "come-back".

TABLE 5. Summary of some results from SIQ:1.

A= Individuals at risk (n=6), B=The rest (n=71). P-value is calculated by Fishers Exact Test.

Scales/ parameters	Answer-categories	A	B	(P-value) A/B
1. Do you have determined goals or guidelines for a "come-back"?	Yes	2	60	0.011 *
	No	4	11	
2. Do you see your team mates after the injury?	Much/very much	0	21¤	0.033 *
	Little/very little	6	23¤	

* p<0.05. ¤ The remaining answers: "No difference from before".

At this point it seems justified to denominate the "individuals at risk" group, psycho-social risk group.

DISCUSSION

Comparisons between groups of injured and non-injured athletes show logical differences. Long term injured athletes, of course, not only tend to experience their condition in a gloomy way, but also tend to act in a less constructive way as to handling the present situation (coping) by a mental plan or strategy. In the present study there seem to be a tendency for long-term injury to bring about emotional discomfort and stress, not seldom accompanied by reduced responsibility for recovery. In the statistics from the group of injured athletes it is to be observed that almost 20% are unable to return to their main sport even at a reduced level. Even more noticeable appears the small group of approximately 9% who at the end of physical treatment report inactivity as to participation in sport despite a positiv physical record.

In order to detect individual signs of potential shortcomings in rehabilitation after injury, the best model or instrument seems to be to carry out an interview in the line of Folkman & Lazarus appraisal theory. This theory emphasizes the individual's cognitive experience of injury, thus trying to make the stress-response understandable. The model shows that the effect of the coping strategies used by the individual, i.e. the way the individual handles the situation, depends on personality, previous experience of stressful situations, and situational and physiological factors. Advantageous background factors are for example; high self-esteem, good physical condition and a reinforcing social network. These factors facilitate adaptive coping strategies.

It would be of interest to select, by interviews, those who have a positive cognitive picture of the rehabilitation to come, despite a stressful life situation (Kobasa Hardiness factor), from those who have a negative cognitive image (Peterson & Seligman "Pessimistic explanatory style").

Summing up: Long-term injured athletes tend to activate coping strategies, aimed at problem solving, in a less effective mode than non-injured athletes. The described methods do not prove to have satisfactory diagnostic value or discriminating power to identify the risk factors indicating the psycho-social group. Therefore a model is suggested which puts the athlete's cognitive interpretation of the injury and the following rehabilitation in focus.

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PHYSIOTHERAPIST'S EXPECTATIONS AND THEIR INFLUENCE ON COMPLIANCE TO SPORTS INJURY REHABILITATION

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INTRODUCTION

The determinants of compliance have been examined across a wide range of health and illness behaviours such as screening, medication use and exercise (DiMatteo & DiNicola, 1982; Meichenbaum & Turk, 1987). Recent interest has emerged in the psychological processes associated with sports injury rehabilitation (Duda, Smart & Tappe, 1989; Fisher, 1990; Fisher, Mullins & Frye, 1993; Grove, Hanrahan & Stewart, 1990; Heil, 1993; Pargman, 1993).

The nature of the relationship between health professional and patient has received considerable interest as a determinant of medical compliance (Ley, 1988). One approach to examining this relationship has been through patient satisfaction surveys which have typically focused on evaluation of such facets as communication skills, competence, empathy, both in general practice (Rees Lewis, 1994), and in the sports injury context (Taylor & May, 1993). Simplistically, Ley's (1988) cognitive model suggests that patients who are more satisfied with their clinical consultation will be more likely to comply with recommended treatment plans.

One way to interpret this relationship is to consider the self-fulfilling prophecy as a mediating mechanism (Rosenthal, 1974). In other words, during a consultation, a therapist's expectations about the likelihood of a patient complying or not may well be communicated to the patient, thereby influencing actual compliance. If a patient seems likely to comply then a therapist may offer more personal attention and empathy, and take greater care in tailoring and defining the treatment plan (thereby raising patient satisfaction). On the other hand, a patient who seems less likely to comply would be given less consideration, and the patient may leave the consultation feeling less satisfied and less likely to perform the rehabilitation regimen. Gastorf and Galanos (1983) and Jenner (1990) drew attention to what has been also described as the Pygmalion effect among both physicians and alcohol rehabilitation therapists, respectively. Wilder (1994) warned sports injury therapists of the potentially negative consequences of the self-fulfilling prophecy but provided no empirical evidence for the link between expectancy and compliance.

The purpose of this paper is therefore to identify the extent of non-compliance and

examine the relationship between a sports therapist's expectation of compliance following a consultation with an injured athlete, and various subsequent measures of compliance to a prescribed home-based rehabilitation regimen.

METHOD

Survey development

Two compliance data sheets were developed in consultation with 7 sports injury physiotherapists to gain a variety of measures of patient compliance. These included both the physiotherapist's and patient's estimation of compliance to different facets of the prescribed rehabilitation (eg., mobility, stretching, strengthening exercises, hot/cold therapy, application of compression, and rest).

Procedures

In order to standardise environmental factors and gain control over the quality of data collected, just one sports injury clinic was chosen, which operated with only one physiotherapist, on a British University campus, exclusively for students. Appointments were made, and students were subsequently seen on average for 20 minutes, during which diagnosis, prognosis and treatment plan were established and/or necessary modalities applied. No other personnel were involved in the clinic.

At the end of a first appointment with new patients who required both a second appointment and some home-based rehabilitation and/or rest, the patient was introduced to the study's procedures which would ensure confidentiality and anonymity and were invited to participate: none refused.

After the first appointment the physiotherapist completed details about the treatment plan, on their own compliance sheet, and also noted the sex and date of birth of the patient (to enable subsequent anonymous matching of patient and physiotherapist responses, and to avoid response bias). The physiotherapist also marked on a visual analogue scale their general expectancy of the athlete to comply with all aspects of the prescribed rehabilitation, from 'do nothing' (0) to 'do everything prescribed' (100).

Immediately after the second appointment, both patient and physiotherapist completed their respective compliance data sheets in separate rooms. The patient's compliance sheet was almost identical to the physiotherapists: the patient had to recall what it was they were supposed to have done, the time taken, and an estimate on a 5-point scale from none (0) to everything (4) the extent to which they had complied, for each aspect of the treatment plan.

Patient response sheets were placed in a sealed envelope and left in a secure box outside the clinic, to limit response bias.

Data was collected from 62 patients, with corresponding information on compliance from the physiotherapist. Only 55 patients were prescribed rest, and were therefore included in analysis of that data. For the physiotherapist's and patient's compliance to the modalities, a mean score was calculated by summing the score for each modality (from 0-4) and dividing by the number of modalities prescribed.

RESULTS

The subject's mean age was 21.7 years (SD = 2.85) with a range from 19-32, and 68% were female. They were involved in a wide range of sporting activities including the following, listed as their primary activity; soccer, rugby or hockey (24.7%); running, cycling or swimming (21.3%); gymnastics (9.8%); tennis, badminton or squash (8.2%), fitness (6.5%). Subjects were involved across all levels of participation, from elite (ie., semi-professional or at least regional representative, 18%), to recreational (38%) with most (44%) at competitive club level. 38% reported that the injury was recurrent. Injuries were also categorised by site and 16% were associated with the head and upper body, 31% with upper limbs and 53% with lower limbs.

In order to simplify the compliance data, and because it was positively skewed, responses were collapsed, thereby producing four dichotomised compliance measures. The proportion of subjects who fully complied with the prescribed modalities was 45% and 40% from the physiotherapist's and patient's estimates, respectively. The proportion of subjects who fully complied with the prescribed rest was 49% and 51% from the physiotherapist's and patient's estimates, respectively.

The mean expectancy score was 83.4 (on a 0-100 scale) (SD = 13.8) with a range from 42-98. A median split lead to the classification of either low (below 89) and high (above 88) expectancy subjects. Table 1 shows the proportion of subjects classified by expectancy and compliance. Chi^2 analyses revealed significant relationships between expectancy and all measures of compliance except the patient's self-report of compliance to prescribed modalities.

TABLE 1 Relationship between physiotherapist's expectancy of compliant behaviour and various subsequent measures of compliance to prescribed modalities and rest

Compliance measure	Expectancy group		
	Low (n=32)	High (n=28)	Chi2
Estimate of *prescribed modalities* [a]			
By the Physio.			
Missed some (n=33)	81.8%	18.2%	
Did everything (n=27)	18.5%	81.5%	23.9**
By the patient			
Missed some (n=34)	55.9%	44.1%	
Did everything (n=23)	47.8%	52.2%	0.4
Estimate of *rest* [b]			
By the Physio.			
Didn't rest (n=28)	67.9%	32.1%	
Rested fully (n=27)	33.3%	66.7%	6.6*
By the patient			
Didn't rest (n=24)	75.0%	25.0%	
Rested fully (n=25)	24.0%	76.0%	12.8**

note: * p<.01, **p<.001

a Physio. and patient responded on a 5-point scale from none(0)-all(4). Data was dichotomised into 0-3 (missed some) and 4 (did everything).

b The Physio. responded on a 5-point scale from none(0)-all(4). Data here dichotomised into 0-3 (didn't avoid) and 4 (avoided everything). The patient had a response format with 5 levels of number of non-prescribed activity sessions (none/1-3/4-6/7-10/over 10). Data was dichotomised into none (avoided everything) and 1-10+ (didn't avoid).

DISCUSSION

The present study appears to support claims by Fisher (1990) that compliance rates are problematic among injured athletes. It is perhaps not surprising that adherence to a home-based programme in the UK is worse than that in the college athletic training room in North America where greater daily individual care may be given by the therapist.

Only a few authors (eg., Fisher, et al., 1993) have examined the role of the therapist as a determinant of compliance in the sports injury context, but no previous studies have

provided empirical data to support the Pygmalion or self-fulfilling prophecy effect. Wilder (1994) suggests that identification of the non-compliant patient may lead to non-compliant behaviour through less attentive care on the part of the the therapist, and vice versa for the compliant patient.

The present study provided evidence that the therapist can predict subsequent compliance following a single initial consultation. Perhaps greater confidence can be drawn from the relationship between expectancy and subsequent compliance to rest: both patient's and physiotherapist's compliance measures were related to expectancy, whereas only the therapist's measure of compliance to prescribed modalities was related to expectancy. Further research is necessary to identify what precise information the therapist selects in order to make judgments about compliance, and also at what stage in the consultation such expectancies are formed. It also appears that cues regarding compliance or non-compliance to prescribed rest may be identified more easily by the therapist.

While prediction of compliance seems possible, it is not certain from the present study that the self-fulfilling prophecy is the mechanism to explain the relationship. It would seem likely that the therapist's behaviour may well be influenced by expectancies. If this is the case, then clearly strategies to enhance compliance, particularly for the low expectancy patient, should be developed if any treatment plan is to be effective (Gilbourne & Taylor, in press; Worrel, 1992.)

Since a therapist's expectancies did not always predict compliance there must have been other factors influencing compliance. With the same subjects as those described in the present paper, Taylor and May (under review) revealed that athletes fear and coping appraisal were both related to compliance to prescribed modalities and rest. It would therefore seem that therapists may well attempt to raise perceptions of injury severity and susceptibility towards retarded rehabilitation or reinjury. They may also increase beliefs in the ability to perform the rehabilitation programme (self efficacy) and the benefits of doing the prescribed regimen, particularly for patients with low expectancy to comply.

In conclusion, this study provided evidence that sports therapists can predict patient compliance to prescribed modalities and rest. In identifying the self-fulfillling prophecy or Pygmalion effect as one explanation for this relationship the paper supports the recommendations of Wilder (1994) that sports therapists should be wary of the potential negative effects of expectancies on subsequent athlete compliance.

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3RD POSTER SESSIONS

P.3.1. Motivation

P.3.2. Personality

P.3.1. MOTIVATION

MOTIVATIONAL PATTERNS IN THREE DIFFERENT LEVEL GROUPS OF TAEKWONDO PARTICIPANTS

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Because of the importance of the study of **motivation** in sport, a number of investigators have begun to identify the major motives that the young athletes have for participating in competitive young programs (Alonso and Cruz, 1994; Gill, Gross and Huddleston, 1983; Gould, Feltz and Weiss, 1985 1983; Kim, 1991; Klint and Weiss, 1987; Wankel and Kreisel, 1985...). In general, the results of these studies revealed that **improve skills, have fun, be with friends or make new friends, excitement, fitness, energy release** and **achievement status** were the most important dimensions of participation motivation.

An important factor to consider in the area of participation motivation is the intensity level of sport involvement (Weiss, 1993). Children, adolescentes and adults are involved at different levels of organized sport, yet little research has addressed possible differences in motivation at these levels of participation intensity. Just a few studies have been conducted to analyze the differences in motivation among elite, subelite and recreational levels of sport (Butt and Cox, 1992; Ebbeck, 1994; Klint and Weiss, 1986; Martindale, Devlin and Vyse, 1990). Although it is difficult to compare the results of these studies because of they have used different methodologies, the main conclusion of practically all of them is that the higher competitive level the higher importance of the competition and winning as a main goals in sport. On the other hand, the less competitive groups the more they are motivated by fun and enjoyment. This results suggested that we need to considerate the **participant status groups** when we want to analyze the participation motives in sport.

In a parallel way, we also wanted to considerate **self-efficacy** to achieve these stated goals and **enjoyment** of the participants. Both constructs have been choosen because of the

influence that they have in motivation (Feltz, 1992; Scanlan, Stein and Ravizza, 1989; Scanlan and Simmons, 1992...).

The primary purpose of this investigation was to examine the major performance goals in sport among taekwondo participants of three different levels of participation. A second purpose was to analyze self-efficacy to achieve these stated goals, and a third purpose was to assess the main sources of enjoyment of the participants.

METHOD and PROCEDURE

Subjects

Fifty six athletes (35 males and 21 females), ranging in age from 13 to 27 years, volunteered to participate in the present study. Subjects were high level athletes (n=21) who have competed at an international level (*elite group*), competitors at a national level (n=17) (*subelite group*), and competitors at a regional level or with no competitive experience (n=18) (*recreational group*). The elite taekwondo participants in this study practiced their sport for al least 5 days per week, whereas the subelite group practiced for 3 to 5 days per week. The recreational participants practiced for a maximum of 3 days per week.

All subjects completed a questionnaire which contained questions pertaining to personal background as well as a list of 40 possible goals for participation in taekwondo (see APPENDIX) and another list with the same items but in different order to complete the main sources of enjoyment in sport. The list of goals was developed based upon the instruments used by previuos research to assess the participation motives in sport (Gill, Gross and Huddleston, 1983; Gould, Feltz and Weiss, 1985) and it was also based in the main sources of enjoyment that Scanlan, Stein and Ravizza (1989) concluded in their research with 26 elite figure skaters. It was also included one possible and specific motive in taekwondo practice ("to learn how to defend from others"). The subjects had to order only the five more important goals in sport for them and then rate - in a five point

Likert-scale - how confident they will be in the future in achieving their five main goals. After that, the second list of -now- sources of enjoyment was administrated and in this case the subjects had just to order their five more important sources of enjoyment in taekwondo practice.

Procedure

Subjects were drawn from three taekwondo populations. The most elite group (n=21) consisted of men and women who attended to the Center of High Performance in Sant Cugat (Barcelona). The second group - the competitors at a national level - (n=17) were taekwondo participants that were training in a high level gym also in Barcelona. And the less involved group (n=18) were subjects from another gym which stated purpose didn't reflect an strong emphasis on competition.

The procedure followed was always the same: first of all, for the three groups surveyed, initial permission to contact with the athletes was obtained from each coach, and once they agreed to collaborate in our research, we administered the questionnaire to all the participants of each group that wanted to cooperate with us (all of them agreed to participate). The taekwondo participants completed the questionnaire during regular practice sessions under our supervision. Instructions were given on completing the survey and taekwondo participants were enouraged to ask for clarification if there was something they did not understand.

Results

The results revealed that the elite and subelite groups have as goals in sport competition and winning; and the recreational group (the less elite athletes) has the goals to be physically fit and to enjoy the sport (see TABLE I).

ELITE	%	*SUBELITE*	%	*RECREATIONAL*	%
-competition	71.4	-competition	58.8	-to stay in shape	44.4
-winning	57.1	-winning	47.6	-to enjoy the sport practice	44.4
-to accomplish an outcome goal	47.6	-to stay in shape	41.2	-to learn how to cope with difficult life problems	44.4

TABLE I. Main goals for participation in taekwondo.

Self-efficacy data analyses revealed that there were no significant differences among the three groups, although the lower level had lower self-efficacy to achieve their goals in taekwondo than the other two groups.

Finally, the **sources of enjoyment** of the taekwondo participants were (see TABLE II): in the more elite groups (elite and subelite subjects) winning was the main source of enjoyment; and in the recreational group was to be physically fit.

ELITE	%	*SUBELITE*	%	*RECREATIONAL*	%
-winning	71.5	-winning	70.6	-to stay in shape	66.7
-to accomplish an outcome goal	61.9	-competition	52.9	-to meet new friends	38.9
-competition	38.1	-to be the best	47.1	-to learn how to defend from others	38.9

TABLE II. Main sources of enjoyment in taekwondo practice.

Otherwise, in most of the cases, the main goals plus high self-efficacy to achieve these stated goals in sport have not been the same than the main sources of enjoyment; which could mean that some taekwondo particpants want to achieve speficic goals but then they really enjoy with other facets of taekwondo.

DISCUSSION and CONCLUSIONS

This study supported the results of prior studies which have suggested that, in one hand, there are different motives for participate in sport (Alonso and Cruz, 1994; Gill et al., 1983; Gould et al., 1985; Kim, 1991; Klint and Weiss, 1986...); and, in the second hand, the higher competitive level of the participants the higher importance of the competition and winning as a main goals in sport (Butt and Cox, 1992; Ebbeck, 1994; Klint and Weiss, 1986; Martindale, Devlin and Vyse, 1990).

The elite and subelite groups have shown motivational patterns clearly oriented toward competitive aspects of taekwondo (competition, winning and accomplishment of an outcome goals) whereas the recreational group has shown a different motivational pattern oriented toward staying in shape and just enjoy the sport practice.

The importance placed on competition and winning in the current study may partly be a characteristic of the specific sample because of the context that elite and subelite groups are involved. The emphasis of the competition on this social context is very strong in both groups which is not the case of the recreational group (the taekwondo program here is more oriented to physical fitness and health than in elite and subelite groups).

Otherwise, the motivational pattern of the more elite athletes could also be explained because of the highly visible successes of spanish taekwondo participants at european and international competitions which seem to have increased the emphasis on winning.

About self-efficacy it could be concluded that, although there haven't been significant differences among the three groups, there is a clear tendency that shows that the higher competitive level of the participants the higher self-efficacy they have to achieve their stated goals. This result is interesting if we keep in mind, for example, that the goals of the recreational group could be "easier" to achieve than the goals of the other two groups. So, the results of the present study revealed that there could be a relationship between self-

efficacy and performance in the sense of the higher competitive level the higher self-efficacy as some studies have also concluded before (Feltz, 1992).

Finally, with regard to sources of enjoyment, the more elite athletes have shown also a similar pattern of enjoyment different from the recreational group. The first two groups enjoy basically from victories and competition and the third one from staying in shape, meet new friends and learn how to defend from others. Once again, the importance of competition and winning appear in elite and subelite groups.

In summary, the findings are interpreted as suggesting that in taekwondo there is too much emphasis on competition and sport organizers and coaches must considerate the potential negative consequences of these performance goals in motivation and enjoyment in sport, and try to "reorientate" this motivational pattern toward more adaptative motivational patterns as mastery goals instead of performance goals in taekwondo.

The main conclusions of the present study are the following:

1. the taekwondo participants have different goals in sport according to the intensity level of sport involvement: the higher competitive level of the participants the higher importance of the competition and winning as a main goals in sport;
2. the three taekwondo groups have different level of self-efficacy: the higher competitive level of the participants the higher perceived self-efficacy to achieve the stated goals in taekwondo;
3. the taekwondo participants have different sources of enjoyment in sport according to the intensity level of sport involvement: the more elite athletes the higher importance of the victories in competition as a source of enjoyment and the more recreational participants the more they enjoy being physically fit and staying in shape;
4. the main goals of all taekwondo subjects of this study have not always been corresponded with the main sources of enjoyment in sport;
5. in spite of an specific goal could be important for a taekwondo participant and he or she feels totally confident to achieve this goal in the future, it doesn't mean that this goal will be the main source of enjoyment in sport.

APPENDIX

* *List of goals:*

1. to meet new friends
2. to be in the paper
3. to have opportunities to travel
4. to stay in shape
5. to bring pride to my family
6. to feel the action and excitement of the sport
7. to improve my skills
8. to be more popular within the taekwondo community
9. to feel the excitement of the audience
10. to perform better than others during taekwondo practice
11. to feel important
12. to improve my tactics
13. to receive rewards
14. to escape from daily life problems
15. to feel competent in some life arena
16. to learn new movements
17. competition
18. to perform better the technical movements of the sport
19. to be in television
20. to be better at a sport than school friends and peers
21. to strive for perfection
22. to be with my taekwondo friends
23. to be a hometown hero
24. to bring pride to my coach
25. to win
26. to learn how to cope with difficult life problems
27. to release tension
28. to receive recognition from within the taekwondo community
29. to earn money as an professional athlete
30. to perform for an audience
31. to accomplish an outcome goal
32. to be an school/work celebrity
33. to go to a higher level
34. to work really hard during practice
35. to be recognized as an important sportman/sportwoman
36. to be the best
37. to enjoy the sport practice
38. to make the history books of taekwondo
39. to learn how to defend from others
40. .....

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EFFECTS OF GENDER AND PEER MOTIVATIONAL GOALS ON A MOTOR SKILL ACQUISITION IN SYMMETRIC AND ASYMMETRIC DYADS

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KEY-WORDS

Dyad ; competence symmetry-asymmetry ; gender differences ; motivational goals.

INTRODUCTION

For many years the field of the psycho-sociology of cognitive development has had as a goal the understanding of the relation between the cognitive and social positions of the individual in a learning situation (Doise & Mugny, 1981 ; Perret-Clermont & Nicolet, 1988). The role of peer interaction has given rise to much work, whether the acquisitions took place in symmetric dyads (e.g. two children of the same age and the same skill level regarding the task) or asymmetric dyads (an 'expert' child interacting with a 'novice' child). The importance of this in the field of the acquisition of complex motor skill has recently been demonstrated and illuminated by experimental work (d'Arripe, Fleurance & Winnykamen, 1994). More precisely the results showed the advantage of work in peer dyads over individual work for the acquisition of a skill which relies heavily on an internal model (a forward somersault). A complementary study was carried out to control the symmetry / asymmetry in the competence level of subjects faced with the same skill to acquire, in order to measure the relative efficiency of work in symmetric or asymmetric dyads, and to check the importance of a slight asymmetry in competence level compared to a marked one (d'Arripe-Longueville & Fleurance, submitted).

In addition, individual differences in terms of gender and motivational goals in the field of socio-cognitive observational learning or motor learning are much witnessed to. For example, Bensalah (1992) showed that in puzzle and manipulation tasks, girls working in asymmetric dyads display tutoring behavior more than boys, who act in a more uncoordinated fashion where the aims of the partners are different (paralled behavior, substitution). Similarly, but within the framework of the learning of basic motor skills in young children, Garcia (1994) showed that girls interact more cooperatively than boys who tend to interact competitively or selfishly.

Gender, Motivational Goals and Motor Skill Acquisition in Symmetric and Asymmetric Dyads

The influence of the sexual gender of the model in observational learning is clear as far as the effect of a same sex model and observer is concerned. Gould & Weiss (1981) showed the effect of this on the observer's feeling of self-efficacy : female subjects performed better in a muscular endurance task when they had had a female model than when they had had a male model.

Finally, within the domain of achievement motivation, Famose, Cury & Sarrazin (1991) following in the same line of work as Gill (1986) and Duda (1988) showed, using Roberts and Ballague's socio-cognitive scale, the differences in the way boys and girls at school construct their representations of competence needs and how they perceive their successes and failures in sport. The results confirm that boys have more pronounced ego motivational goals than girls do.

Our main aim follows on from this line of work, it is the study of the effect of gender in peer interaction, especially in dyads which are symmetric or asymmetric as regards the level of motor skill. We wanted to verify that girls are more efficient in symmetrical conditions and boys in asymmetrical ones (d'Arripe, Fleurance, & Winnykamen, 1994). According to these results, we also wanted to examine the relation between the competence symmetry or asymmetry and the motivational goals of the subjects. More exactly, we expected to find a link between competence asymmetry and greatest ego goal orientation in the boys and between competence symmetry and the least ego goal orientation in the girls.

METHOD

SUBJECTS

36 girls and 36 boys aged from 15 to 16 (mean age : 15.7) voluntarily took part in the experiment. They were all high school students from around Paris. Following an assessment of their performance of a forward somersault, they were divided into four groups according to two independant variables : gender (boys vs girls) and social interaction conditions (symmetric social interaction : S.S.I. vs asymmetric social interaction : A.S.I.). Number of subjects for each experimental group is presented in Table 1.

TABLE 1. Number of Subjects in Each Experimental Group.

	Symmetrical dyads S.S.I.		Asymmetrical dyads A.S.I.	
Gender	Boys	Girls	Boys	Girls
Number	18	18	18	18

TASK AND PROCEDURE

The task consisted of performing a forward somersault from a mini-trampoline. The following conditions were imposed : all subjects had a 12 m track to start from. A video recorder was perpendicular to the landing mat.

The subjects were asked to individually reformulate the goal of the task after consultation with their partner, in order to appreciate their understanding. The representation of the goal of the task was measured on a 5 point scale, describing 5 levels of formulation. The subjects were then asked alternately to carry out 3 series of trials. Each subject took his turn, the partner not performing watched the other. After each trial, there was an obligatory consultation between partners. Each subject's final performance (immediate transfer) was judged according to two trials filmed. 14 days after the experiment, the subjects were required the re-do the somersault (retention test). In each case the progress in comparison to the initial motor performance was measured. Each performance was identified on a ten point scale, describing, with verbal and pictural informations, 10 levels of the forward somersault.

The subjects' motivational orientation was measured using the French version of Roberts & Balague's socio-cognitive scale concerning perception of success in sport (Durand & coll., in press).

TREATMENT OF THE DATA

As regards the evaluation of the goal's representation and the performance progress, a correlation test was used to check that the two experts agreed. A variance analysis allowed us to note the effects of social condition (S.S.I. vs A.S.I.) and gender (boys vs girls) on the variables which were measured. Significant difference was fixed at .05.

Finally, a correlation analysis between motivational goals and performance progress was carried out.

RESULTS

The ANOVA shows that gender has a global significant effect on the representation of the goal of the task ($F(1, 60) = 4,74$; $P = .03$), to the advantage of girls.

Gender has no global significant effect on immediate performance ($F(1, 60) = 1,32$; $P = .25$) or on retention ($F(1, 60) = 2,06$; $P = .15$). However, gender has a differential effect on the same variables within asymmetric dyads ($F(1,17) = 7,63$; $P=.01$ and $F(1,17) = 9,96$; $P=.005$), to the advantage of boys (m_{Boys} vs $m_{Girls} = 2,15$ vs $1,05$ for immediate performance and m_{Boys} vs $m_{Girls} = 1,95$ vs $1,15$ for retention).

Moreover, interaction between social condition and gender has a significant effect for the same variables ($F(2,60) = 6.02$; $P<.01$ and $F(2,60) = 4,42$; $P = .01$ for retention). Figures 1 and 2 show that a competence asymmetry has more effect on boys than on girls. More precisely, girls benefit more from a symmetric dyad condition than boys do ($m_{SSI\ Girls}$ vs $m_{ASI\ Boys} = 1,75$ vs $1,2$) ; inversely, the boys have a higher learning rate in asymmetric dyads than the girls do ($m_{ASI\ Girls}$ vs $m_{ASI\ Boys} = 1$ vs $2,1$).

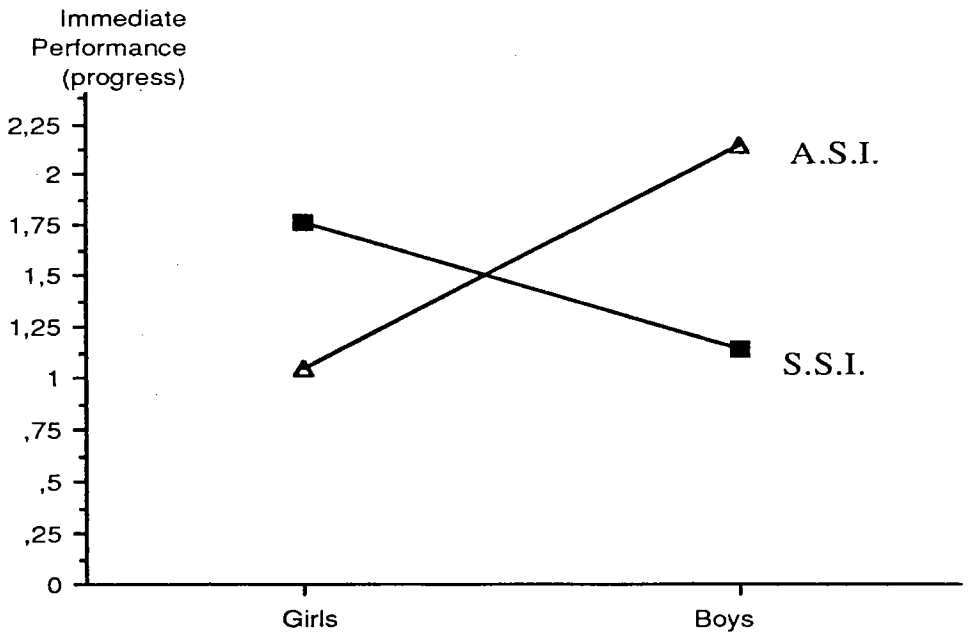

Fig. 1. Interaction Effects between Social Condition and Gender on Immediate Performance

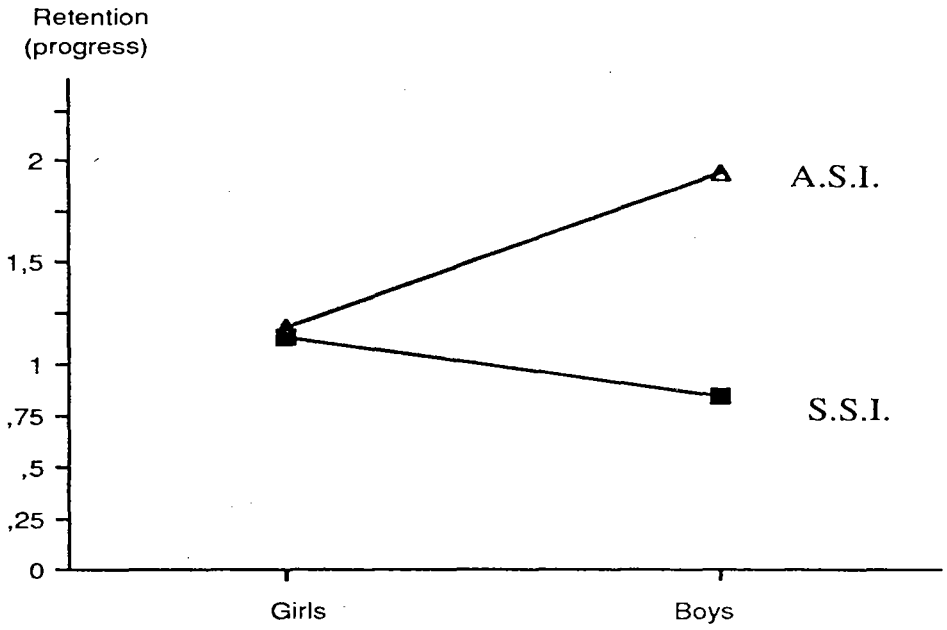

Fig. 2. Interaction Effects between Social Condition and Gender on Retention.

Correlations between motivational goals and performance progress for all groups are presented in Tables 1 to 4. A task-oriented goal is positively related to performance progress (retention test) in all groups. An ego-oriented goal is positively related to performance progress in asymmetrical dyads, but negatively correlated with performance in symmetrical dyads, among boys and girls.

Finally, the results do not show that girls, who are more efficient in symmetrical dyads than in asymmetrical ones (see variance analysis), are less ego oriented than boys who perform better in asymmetrical conditions.

TABLES 2 to 5. Simple Correlations between Motivational Goals and Performance Progress (Immediate Performance and Retention).

TABLE 2. Boys in Symmetrical Dyads

	Immediate performance	Retention
Task goal	.60*	.43
Ego goal	- .14	- .08

TABLE 3. Boys in Asymmetrical Dyads

	Immediate performance	Retention
Task goal	.28	.43
Ego goal	- .15	.14

TABLE 4. Girls in Symmetrical Dyads

	Immediate performance	Retention
Task goal	.41	.29
Ego goal	- .02	- .29

TABLE 5. Girls in Asymmetrical Dyads

	Immediate performance	Retention
Task goal	- .14	.58*
Ego goal	.23	.28

*$p < .05$

DISCUSSION AND CONCLUSIONS

The significant effects of gender on goal representation advantaging girls are difficult to interpret. We can however assume that these results go along with the more scholarly character of girls which is linked to a certain distribution of sexual roles. This tendancy, which has been noted empirically, has been analysed by different authors, especially Winnykamen (1993).

The effect of gender on motor performance are, however, less surprising : the superiority of the boys in comparison to girls in asymmetric condition can be imputed to the respective physical attributes of the subjects (Fleishman & Quaintance, 1984), to affective factors (boys generally take more risks than girls ; Assailly, 1992) or to the impact of social representations (the sexual connotation of acrobatic skills).

Positive correlations between a task-oriented goal and performance progress (retention) in all experiment groups support favorably other studies in the literature about achievement motivation (Duda, 1988, 1989). Plus, the fact that an ego-oriented goal is positively related to performance progress in asymmetrical dyads, but negatively correlated with performance in

symmetrical dyads, among boys and girls provides interesting information relating to individual differences in social learning. This requires additional investigations.

However, the fact that boys benefit more from work in asymmetric dyads and girls from work in symmetric dyads for immediate and delayed motor performance (retention) does not seem, contrary to our expectations, correlated to their motivational goals. It must be emphasised that the advice given about reciprocal observation and progress undoubtedly led a mastery oriented climate. This suggests that for our purposes the Perception of Success in Sport Questionnaire (evaluating a relatively stable personality trait) had its limits.

In conclusion, these results suggest the need for more complete theoretical and methodological investigations focusing on an evaluation of motivational goals for a specific task and a qualitative analysis of the interactive dynamics taking place in dyads. It would also be worthwhile to study peer friendship (Tous St Marc, 1981) and reciprocal partner representation (Fraysse, 1992).

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ORGANIZED YOUTH SWIMMING : SOME PSYCHO-PEDAGOGICAL IMPLICATIONS

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KEY WORDS : youth sport, organized swimming, values, youth-centred

INTRODUCTION

In the discussion of 'youth-centred' sport, a crucial field of tension from a pedagogical viewpoint is the value-orientation of the youngsters themselves and the interest (of significant adults) for their future adulthood. From a psychological viewpoint the accent is also on the values and motives of the youngsters and their signifcant others. On the one hand, swimming is often associated with values such as health and physical condition (Gambril & Bay, 1988; Wilke, 1992; Van der Sluis & Jiskoot, 1984). On the other hand, competitive swimming has the reputation of being a hard, isolated and even monotonous sport (De Knop, 1989; Juba, 1986; Koshkine, 1985). Hard work and performance are accentuated.
The major question in this research project was "How do youngsters, youth coaches and parents experience organized swimming and what do they value"? The aim of the study was to assess the values of youngsters, their parents and coaches in organized swimming in order to determine : a) if there is a difference in value orientation regarding organized swimming between youngsters, their parents and coaches and b) what kind of values should be accentuated in the guidance of youngsters in organized sport?

METHOD AND PROCEDURE

The research sample consisted of 163 9-to-15-year-old Flemish members of a swimming club active in a training group, 11 9-to-15-year-old former members of a swimming club who had discontinued their membership, and 23 parents of youth members and 14 youth coaches.
A qualitative research approach was used as it allows a more in-depth study of subjects situated in their natural setting. In qualitative research no preconceived hypotheses are formulated, but researchers rather strive to develop hypotheses from the data (Glaser & Strauss, 1967; Guba & Lincoln, 1981; Strauss & Corbin, 1991). Data were gathered using participant observation,

essays written by youngsters, and semi-structured interviews with youngsters, parents and youth coaches. Over 20 months data were gathered in one swimming club by means of participant observation. One researcher observed the activities from nearby as a youth coach. A second researcher observed one training session per week during 6 months, several competitions and special activities (such as a training camp). Secondly, over a period of two years, 126 essays from youth members (80 girls and 46 boys) from different swimming clubs were gathered. Six essays were gathered from former club swimmers. Youngsters were asked to write about their experiences or opinions in their own words, positively and/or negatively, on the topic of swimming in general and on their swimming club in particular. Finally, semi-structured interviews were used to interview 43 youngsters (21 girls and 22 boys) who were currently members of a swimming club and 5 former club swimmers (1 girl and 4 boys), 23 parents (13 fathers and 10 mothers) and 14 youth coaches (2 female and 12 male) in order to get more detailed information on their experiences and views about organized swimming.
In the first phase, both researchers, who were familiar with organized swimming, compared their observational and analysed data. A second analysis was performed by an independent researcher who was not involved in the gathering of the data. The data analysis was done during as well as following data collection. All data were written down and categorised on the basis of key words, themes or item categories. The initial categories were then reduced taking into account the relationship and conflicting interests of some themes.

RESULTS

The data analysis provides a description of (a) the motives children and parents have for swimming, (b) the swimming activities in which they participate, (c) their perceptions of, and the value they attach to these activities, and (d) their perceptions of and the value they attach to the guidance received from trainers and parents.

Motives of children and parents for swimming

Parents cite three specific categories of reasons for youth swimming: functional reasons such as prevention of drowning and personal safety, a family tradition of swimming, and practical implications, and health and fitness especially valued in light of the reduction of P.E. at school. However, the younger children do not think in terms of health, but rather in terms of relaxation, performance or technique improvement and having fun with friends. Parents' and children's motives are sometimes interwoven or interdependent, as the example of this 10-year-old boy clarifies: "*I was playing soccer... my mother told me swimming was better and in the beginning*

I didn't like it, but after a while I had made friends, I continued. And then I began to win medals, and I wanted to continue further..." (Filip, 10 yrs.).

Swimming activities

Parents as well as youngsters appreciate the broad range of activities organized by the swimming club. The children refer to the training sessions, the competitions, the training camps and the special activities, which offer them the opportunity to get to know each other in a broader context. Parents attend to their children's activities and their responsibilities as a parent, such as the transport to and from the training sessions and competitions, and the related waiting time necessitated. During this waiting time, some parents observe the way their children are guided or coached, and the way activities are organized. Others rarely know what is going on. Parents are especially concerned with the organizational aspects of the competitions, because this relates to the good planning of family activities. *"One or two days before the competition, we knew they had to participate... children should be informed months before. Parents have to inscribe on their calendar to take into account 'on that day I have to drive my child'..."* (Father of Anneke and Kaatje)

Perceptions and values of activities

Analysis of the data showed that children's and adults' perceptions of the swimming activities could be subdivided into four categories, that is (a) physical awareness or movement, and health; (b) performance, competition and play; (c) friendship and social contact; and (d) personal and social development.

Some youths perceive their swimming in terms of physical awareness. A 14-year-old girl said: *"For me swimming is sport number 1, I can give myself completely and it gives me a good feeling when I gave myself completely"*. A 14-year-old boy stated :"... *you can develop your muscles while swimming, it is just fun"*. Some parents reported on the disadvantage of competitive swimming being always indoor. Most parents see swimming in terms of a long-term investment for their children's health.

The performance during competition is a topic that is often described: reaching limits or beating records, winning a medal or attaining a certain place, ... Although good results give self-confidence, many youngsters report that they are stressed before and during competitions. Parents are also often anxious when their child is competing. During certain periods of the year, youngsters compete nearly every week-end. Children and parents do not like such a busy schedule. The waiting in a swimming pool where it is warm and noisy seems to be dull. The competitions are boring for most parents and some of them think it is not exiting for the children

either. Some parents do not stay in the pool all the time; they take the opportunity to go sight-seeing in the neighbourhood. The children have lots of fun with their friends, they want to play in the instruction pool, but usually the organizers find that they disturb the competition by making too much noise. A 14-year-old boy thinks that the long waiting hours and the limited choice in swimming strokes causes many youngsters to drop out. However, when a competition is organized by the own club, youngsters help with the preparation and clearing-up of the swimming pool. When the competition is finished, they organize a competition themselves in the width of the pool, where they have much more fun and excitement in comparison to the swimming competition itself (participant observation). A crucial finding in the data was that swimming in lanes becomes boring after a while. Children would like their training sessions to have another content, exemplified by this 9-year-old girl: *"Instead of swimming lessons, I would like to have a 'playing lesson' and I'd like to dive during a whole session."* Parents appreciate the playing or relaxation when it is organized, but do not like seeing their children play *"when they should be training seriously"*. One coach indicated during a trainers' meeting that he did not like to let the children play at the end of the training session because this was the moment parents arrived in the swimming pool and *"what should they say when they see their children only playing...?"*

Friendship and social contacts are very important to young swimmers. Nevertheless organized swimming does not offer many opportunities to have intense social contact as this 14-year-old girl clarifies: *"And from time to time you have the opportunity to say two words to each other when you are hanging on the lanes, but then you should start again... this is very lonely."* (Tamara, 14 yrs.) Youngsters therefore create their own circumstances or make use of situations such as waiting and dressing time, sideline activities, ... to have contact with each other. Parents look also for social contact in the club. The waiting time during training sessions and competitions are good opportunities to learn to know other parents. One father states that *"We were sitting there in company of others, that was great"* (Father of Anneke and Kaatje). Others are less positive about parents' behavior during waiting times.*"Some parents are only friendly when they need something."* (Father of Anneke and Kaatje)

Does swimming contribute to the personal and social development? Björn (15) has his doubts about the expression of some adults that swimming 'builds character'. According to a trainer, this depends on the achievement-orientation. One of the fathers also has his doubts about education in a sport club because he indicates that youngsters spend much more time at home. Later on in his interview he talks about the advantage of the social contact in the club. Other educational themes are : get to know yourself, accept limitations, experience adversity, do your very best and persevere, learn to do something with your life, discipline/fair play/respect for rules, for others and for yourself, reflect and concentrate, take responsibility, social contact. In the data were found some ways of learning these values : give responsibility, indirect learning,

whether or not accentuate, give freedom, give youngsters the feeling that they and their meaning is important, give special attention to doubters. Many coaches and parents believe that the educational values, learnt in the swimming club, can have a transfer to other circumstances and for the future. Adults compare the atmosphere of the club with other leisure time environments. They prefer the engagement in the club in comparison with hanging around on the street or pubs or being lazy at home. Parents know the friends their children have contact with in the club, what makes them feel secure. A factor which should not be underestimated is the necessity for youngsters to organize their own time schedule, in function of their combination of competitive swimming, school and other leisure activities. Here, youngsters often feel their parents' concern and watchful eye regarding priorities. As the father of Rebecca stated, youngsters can learn to engage in an organization by doing some tasks of the guidance or the organization. The fact of being away from home during training camps, without the supervision of parents equals freedom, suspense and discovery for the youngsters.

Perceptions and values of guidance

The quality and the weight of the training is always associated with the guidance provided. Usually it depends on the coach if youngsters learn a lot and whether they like the training session or not. A coach must have knowledge of the sport technical aspects and teach this in an appropriate way. Because a certain discipline is needed by the youngsters themselves, he can be severe. Though being friendly, giving encouragement and feed back on a regular basis is also a necessity according to the swimmers. Parents want to be well informed, and expect all children are to be well guided. Some parents want their children to be guided by different coaches, others prefer one coach or at least enough mutual consultation.

CONCLUSION AND DISCUSSION

Before the interpretation of the results, we give a summary of the theoretical background. In our qualitative study, theory was not used as a starting point, but was necessary to interpret the data. Four characteristics were found in the definitions and descriptions of values in the literature (Australian Sport Commission, 1991; Fraleigh, 1990; Glassford, 1991; Kirjonen, 1991; Kretchmar, 1990; Laberge & Girardin, 1992; Lee, 1993; Lee & Cockman, 1991; Mc Phearson, 1989; Rokeach, 1973; Snyder & Spreitzer, 1989).

a) Personal appreciation : there is a relation between 'what' is valued (an object such as sport, swimming, ...) and a 'person' (a valueing subject, for example a youngster). The values that youngsters associate with a sport are the factors that reinforce their motivation to participate in

that sport. In the process of personal appreciation, youngsters are looking for socialization agents and values are often related to a number of other values.

b) Social desirability : a lot of actions and the underlying values are desirable because they are accentuated and accepted in society.

c) Acting oriented : our goals and behavior reflect our values, our priorities. It is suggested that a limited number of values underpin a wide range of both attitudes and behavior.

d) Contextual : values should be studied in a specific context, because they are specific or at least particular salient to sport settings.

In summary, findings indicated that long term value orientations, such as health and fitness, be able to take responsibility, ..., are more valued by parents and coaches. The youngsters themselves are primarily interested in making fun and in friendship. Good performances are valued by both youngsters and adults. On the one hand youth-centred organized sport means listening and adapting the program and guidance to the youth members themselves. On the other hand it also means preparing youngsters towards integration in society by striving towards values such as discipline, responsibility, perseverance, ...

As Weiss (1995) used the key word "potential" in the discussions of benefits and costs of organized competitive sport for children, we want to accentuate the "potential psycho-pedagogical values". The values that were found in the data can be seen as potential values and be split up in the development of :

(a) physical values, such as health and fitness, skill learning, exploring and experiencing one's own capabilities and performances...

(b) psychological values, such as positive self-esteem, the ability to cope with stress, relaxation, enjoyment, ...

(c) social values, such as empathy for others, friendship, cooperate with teammates, engagement in an organization ...

We must keep in mind that these values are not automatically transmitted through participation. Youngsters can be confronted with both positive and negative aspects in (youth) sports. In this context the value orientation, the attitude and the behavior of significant adults and peers will influence the young sport participant. A personal appreciation of the swimming activities is a must; youngsters will not enjoy themselves when they are not motivated. This does not mean that adults cannot help them in their search for personal appreciation. The key point is that, once they have chosen for competitive swimming, whether or not spurred on by parents, youngsters enjoy their sport participation. When youngsters have the opportunity to value their sport participation in the context of the club, they have learned to give priorities to certain values and thus determine (partly) their own future leisure time behavior.

The values mentioned above are essential values in society and can be used as magnets for the swimming club. Some values, such as performance, are not only socially accepted but rather

overstimulated. Those responsible in youth clubs must be aware of the danger of overaccentuating the value of performance. Most of the youngsters are motivated by their own.
This study led us to develop :
A] a list of practical advices for youth sports leaders in organized sport in general and in swimming more in particular, and
B] a research instrument on a representative sample of youngsters and coaches regarding their value orientations during their sport participation and with regard to the guidance in sport.

A] Practical advices

The practical advices are the result of the research data, theoretical viewpoints and personal experiences. It is not enough to claim that sport has positive values for the personal development of a youngster. We must give advices to maximize the probability that these values can manifest.

* Offer youngsters a swimming club where every youngster can learn to swim good and fast according to the own capabilities. Youngsters expect their performances to improve.
* Create an atmosphere were youngsters and their parents can make good friends.
* Youngsters like it when the club has more in mind than swimming in lanes, special activities and training camps must be part of the program.
* Give good guidance, keeping in mind that youngsters want a decent technical approach of a severe but kind coach.
* Listen to the parents, they want to be well informed, are concerned about good guidance and open-door policy with a sympathetic staff.
* Try to participate in challenging competitions and avoid an overloaded program.

Those responsible for the policy and guidance of youth swimming must avoid to persue the more pedagogical values without taking into account the values of the youngsters themselves. Essential for the practice is the complementary character of the values in present childhood and those which are useful for future adulthood.

B] A quantitative research instrument

The data of the qualitative part is used to start up a quantitative research among youngsters and youth coaches. We developed a valid and reliable instrument for the measurement of values in an organized sporting context. This refers to the way in which people structure their values in hierarchy of priorities which includes all those things which they believe to be desirable, which is called a value system (Lee, 1993, Rokeach, 1973). The written questionnaire has to study similarities and differences in value orientations (V.O.) between youngsters and coaches, taken into account the age, sex, level of sport participation and different sports (to see if there is a value culture which can be associated with different sports).

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THE RELATIONSHIP OF GOAL ORIENTATION AND DEGREE OF COMPETITIVE SPORT PARTICIPATION TO THE ENDORSEMENT OF AGGRESSIVE ACTS IN AMERICAN FOOTBALL

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KEYWORDS: Goal orientations, sportsmanship, aggression

INTRODUCTION

Organized sport is thought to be a major socializing agent for prosocial values among young people. There is evidence to suggest, however, that youth sport participation may be negatively related to moral reasoning and character development (Bredemeier, Weiss, Shields, & Cooper, 1986). Research has indicated that children, especially boys, experience a shift in attitude from fairness to winning as competitive sport involvement increases (Blair, 1985; Webb, 1969). Studies have also found a tendency for those who have been involved in competitive sport for a longer period of time to report lower sportsmanship values than those with less competitive sport experience (Allison, 1982). Other work has shown that higher levels of sport competition are linked with a greater endorsement of rule-violating behavior and aggressive acts (Bredemeier, 1985; Silva, 1983).

Drawing from the work of Nicholls (1984), Duda (1992) has suggested that it is how athletes define success (rather than their degree of competitive involvement) which lays the basis for their views about what is appropriate in the athletic context. Specifically, it is argued that whether an individual is strongly task-oriented (and, thus, judges subjective success in terms of personal improvement and hard work) and/or ego-oriented (and, thus, equates success to the demonstration of superior competence) influences her/his perceptions of the acceptable

means to goal accomplishment. Consistent with this proposition, Duda, Templin, Olson, and Tappe (1989) found that goal perspectives predicted sportsmanship attitudes and athletes' views about the legitimacy of injurious acts. In particular, task orientation was linked to an endorsement of sportsmanlike play and less agreement with "cheating" behaviors. Ego orientation corresponded to a greater acceptance of illegitimate acts and intentionally harmful behaviors.

From an empirical standpoint, the question remains whether perceptions of the legitimacy of unsportsmanlike acts (such as intentional aggression toward an opponent) are a function of increased competitive sport participation or if the level of athletic involvement is associated with a change of goal perspective (i.e., how the person dispositionally defines sport success) which best predicts legitimacy judgments. The purpose of this study was to determine the relationship of both task and ego orientation and competitive level to views concerning the legitimacy of intentionally injurious acts in American football. Based on goal perspective theory and previous research, it was expected that task orientation would be negatively associated with the endorsement of aggressive behaviors. Legitimacy judgments were hypothesized to positively correspond to indices of competitive involvement as well as ego orientation. It was also hypothesized that increases in competitive sport participation would be associated with greater ego orientation. Finally, we expected that goal orientations would be a better predictor of football players' approval of aggressive acts than the indices of competitive involvement.

METHOD AND PROCEDURE

Subjects

Subjects in this study were 124 male high school and 142

male college football players from three Midwestern high schools and three small Midwestern colleges (Division III)in the United States. The mean ages were 16.3 years for high school students and 19.6 for the college students. The mean competitive football experience for high school athletes was 5.5 years and 9.6 years for college athletes.

Questionnaires

In a group setting, the subjects were given a questionnaire that consisted of two parts. In Part A, subjects responded to the 13 item Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda, 1989) specific to the sport of American football.

Part B of the questionnaire was comprised of twelve scenarios placed in a random order depicting aggressive acts in football which increased in severity: 1) nonphysical intimidation, 2) physical intimidation, 3) miss a few minutes of play, 4) miss the rest of the game, 5) miss the rest of the season, and 6) permanently disable an opponent. These scenarios were adapted from Bredemeier's Continuum of Injurious Acts (CIA; 1985). The athletes were asked to answer the following questions after each situation: 1) Is this O.K. to do in order to win?, and 2) Would you do this if it was necessary in order to win? Responses were indicated on a 5-point Likert-type scale (1 = strongly disapprove, 5 = strongly approve).

RESULTS

Validity and Reliability of the Continuum of Injurious Acts in American Football

To determine the degree to which subjects' responses were consistent across the two scenarios at each level of severity, simple correlations were calculated for both the high school and

college athletes. Significant and positive associations between the athletes' responses to each of the two scenarios depicting each of the levels of injurious acts emerged in the case of both samples and across the two probe questions. As a result, a mean composite legitimacy rating was calculated for each of the scenarios for both the high school and college athletes.

To examine the "continuum" aspect of the football-specific version of the CIA, the mean legitimacy rating for each of the 6 levels was examined for the high school and college football players. This was done with respect to the responses to Question 1 and Question 2 independently. Providing evidence for the validity of the revised CIA, the mean perceived legitimacy of the depicted acts tended to increase as the consequence of the described behavior became more severe.

Relationship between Goal Perspectives and the Perceived Legitimacy of Intentionally Injurious Acts

Simple correlations were calculated between task and ego orientation scores and legitimacy judgments with respect to each of the six levels of aggressive acts. Subjects' responses to the Question "Is this O.K. in order to win?" indicated that task orientation significantly and negatively related to approval of injuring an opponent so that he missed the season ($r = -.20$, $p < .01$). A similar trend held for the second question (i.e., "Would you do this in order to win?") with respect to the "miss the season" ($r = -.18$, $p < .01$)and "permanently disable" ($r = -.17$, $p < .01$) judgments. In contrast, ego orientation was positively and significantly correlated to the endorsement of injurious acts except in the case of permanently disabling an opponent. For Question 1, the correlations ranged from .23 to .25. In terms of responses to Question 2, the correlations ranged from .22 to .26.

Relationship between Competitive Level and Goal Perspectives

Simple correlations were calculated between task and ego orientation scores and the number of years of participation in football. Although the observed correlations were low, there was a positive relationship between football experience and task (r = .16, p <.05) and ego (r = .19, p <.05) orientations.

T-tests revealed a significant difference in ego orientation (t(257)=-2.95, p<.001) with the college athletes being more ego-oriented (M = 3.2) than the high school athletes (M = 2.9). Task orientation also significantly varied in relationship to competitive level (t(259)=-3.85, p <.001). College football players (M = 4.3) were higher in task orientation than their high school counterparts (M = 4.0).

Relationship between Competitive Level and the Perceived Legitimacy of Intentionally Injurious Acts

Simple correlations were calculated to determine the relationship between the number of years of participation in football and legitimacy judgments. a positive albeit very weak relationship emerged between years of competitive experience and the athletes' endorsement of and willingness to do nonphysical (r = .14 and .13, p < .05, for Question 1 and Question 2, respectively) and physical intimidation (r = .13 and .15, p < .05, for Question 1 and Question 2, respectively).

Discriminant analyses were performed to determine whether the high school and college football players could be distinguished with respect to perceptions of the legitimacy of the 6 levels of injurious acts. A significant discriminant function did not emerge in terms of the athletes' responses to Question 1 (Wilks' Lambda = .965, $F(6,259)=1.5$, p > .05) or Question 2 (Wilks' Lambda = .962, $F(6,257) = 1.70$, p > .05).

Relationship of Competitive Level and Goal Perspective to the Perceived Legitimacy of Intentionally Injurious Acts

The competitive involvement indices and the two measures of goal perspectives (i.e., the task and ego orientation subscale scores) were regressed separately onto the number of intentionally injurious acts perceived legitimate. For Question 1, goal perspectives (R^2=.06, $p < .01$) were better predictors of the number of injurious acts deemed legitimate than indices of competitive involvement (R^2=.004, $p > .05$). The same pattern of results occurred in terms of Question 2; i.e., goal perspectives (R^2=.05, $p < .01$) provided better prediction of athletes' reported willingness to behavior in an intentionally injurious manner than the competitive indices (R^2=.01, $p < .05$).

Hierarchical multiple regression analyses were employed to test whether the competitive involvement indices provided significant prediction of the number of aggressive acts deemed legitimate after controlling for goal orientations. The addition of level of competition and years of football experience did not significantly contribute to the regression model in the case of Question 1 or Question 2.

DISCUSSION AND CONCLUSIONS

In the present results, athletes who competed at a higher level of sport competition tended to be more ego-oriented than those who participated at a lower level. Given that the differences in ego orientation between the college and high school football players were not particularly large and that the former group was significantly higher in task orientation as well, it is not surprising that the two competitive groups could not be distinguished in their perceptions of aggressive acts. This lack of difference might be due to the fact that the college

athletes competed in Division III level rather than the highly competitive Division I level.

As hypothesized, individual differences in goal perspective (or pronenesses for defining success in a task- and/or ego-involved way; Nicholls, 1989) more strongly related to athletes' views about aggressive behavior in sport than their level of sport participation. Further, athletes who were more ego-oriented (and are more likely to define success in terms of outdoing others) tended to report a greater endorsement of injurious behaviors. A reverse trend was observed for a task orientation. It seems that when focused on ego-involved goals, the end (demonstrating that you are the best) overshadows the means. When emphasizing personal mastery however, an athlete appears less willing to do "whatever it takes" to win.

It should be pointed out that the variance accounted for in perceptions of the legitimacy of aggressive acts in the present work was extremely limited. To enhance our understanding of the determinants of legitimacy judgments, it is suggested that future work should examine the interdependencies between dispositional goal perspectives as well as the perceived goal perspectives prevailing in the environment created by the coach in relation to perceptions of the acceptability of injurious and/or rule-violating behaviors. Further, subsequent research should consider the potential role of overall sport values along with athletes' level of moral reasoning when attempting to explicate the relationship between goals and the endorsement of intentionally injurious acts.

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EFFECTS OF INDUCED THEORIES ABOUT SUCCESS ON SUBSEQUENT GOALS

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According to Nicholls (1984, 1989) two major goals underly achievement behaviors : task or ego involved goals. Studies using factor analysis (eg Duda & Nicholls, 1992) show these motivational orientations are linked to meanings which give subjects settings and behaviors patterns which are acceptable in school or sport contexts. All in all, subject's motivational orientations are in accordance with their conceptions of world.

Dweck and her colleagues (Dweck & Leggett, 1988 ; Dweck & Elliott, 1983) maintain a similar point of view all in demonstrating that the relation between individual's implicit theories, their goals and their behaviors are the products of cause & effect. If the subjects consider that their abilities are malleable (incremental theory) they seem to improve them (learning goal) and consequently think that deployed effort can improve beneficial effect of abilities. In contrast, if abilities are looked upon as fixed (entity theory) subjects are striving to demonstrate them (performance goal) in more distinctly differenciating cause that make results easier such as ability and effort.

Whatever the terminology employed by authors (Ames & Archer, 1988 ; Dweck & Elliott, 1983 ; Nicholls, 1984, 1989) suggested goals classification seems to us to be too vague. Rather than consider two goals, we suggest making a distinction between two categories : three self referenced goals and three socially referenced goals.

Self referenced goals. We consider there are "task involved goals" when a subject is striving to define and clarify task's parameters (Ruble & Frey, 1991) or if the latter incites excitement because of something new in his character (Reeve, Cole & Olson, 1986). We will say there are

"learning goals" if a subject seeks to improve his self competence (Dweck & Elliott, 1983 ; Nicholls, 1984). Lastly, "accomplishment goals" underly subject's behaviors when they have tried to obtain the best performance in the past and they seek to surpass themselves. (MC Clelland, Atkinson, Clark & Lowell, 1953 ; Vallerand, Blais, Brière & Pelletier, 1989).

Socially referenced goals. "Social comparison goals" attest that the effects of social comparison or normative situations in which individuals strive to demonstrate their competence in making use of an extern perspective or social evaluation concerning this. Otherwise, when a subject decides on a "hypercompetitiveness goal" he wants to demonstrate that he is the best at whatever cost even if it means taking illegal drugs, injurying their opponents or stopping them from participating (Gill, 1988 ; Ryckman & Hamel, 1992). Finally, taking "collective involved goals" into consideration reflects the conviction that some self's structures can be considered in their relations with the referential group (Deaux, 1993 ; Markus & Gross, 1990).

Therefore, we make a prediction that the activation of incremental theory of sporting success will determine self referenced goals choices, then the activation of entity theory will be associated to selection of normative referenced goals. Moreover, the allocation of normative referenced goals leads even more to differenciate competence and effort whereas the selection of self referenced goals will bring the subjects to conceive a co-variation of such facilitating causes of their behaviors.

Method

Procedure

The sample population is made up of 48 gymnasts (M = 13.7 ; σ = 1.68) who compete nationaly. To introduce two different conceptions (entity vs malleability) to these 48 gymnasts, we formed two groups of 24 gymnasts and carried out the following.

First of all, we presented in writing (Mc Guire, 1985) to each group on a so called conception of gymnastic success of a well known trainer. To one of the groups we presented a conception of a coach

according to which "we can learn lost of things, but the level of competence stays the same..." (entity theory). To the over group, we gave a text to read of an other coach which implies that "competence is something that we can improve as we wish (incremental theory). During a second stage, we asked the gymnasts to write three arguments in favor of the conception to which they were exposed. The third stage involved the gymnasts applying their motor behaviors in accordance with the conceptions previously carried out. For this, we asked to each group of 24 gymnasts to present a gymnastic exercice including difficulties of their choices. For the individual presentation of each gymnast half of the group were given three positive comments (12 gymnasts) and other half were given negative comments (12 gymnasts). Following the presentation of their exercices, the gymnasts were asked to reply to three questionnaires evaluating their motivational goals, their perceptions of competence and effort. Finally, the girls underwent a debriefing during which we informed them of the real objectives of the study.

Measures

Accomplishment standards. The personal standard evaluation questionnaire (Q.E.S.P) has 18 items which evaluate self referenced and normative standards defined earlier on. Studies carried out 113 psychology students show that the Q.E.S.P has a very good intern consistence (α = .95) and a good construct validity (Thill & Crevoisier, 1994 ; Thill, Ferrand, Filattre, soumis).

Perceptions of competence. The gymnasts are required to reply to the following question : " You have just finish your exercice. In what way do you feel competent in this exercice who you carried out? Consequently, they must put a vertical line beetween two extremities of horizontal bar (10 centimeters X 1 centimeter).

Perceptions of effort. The method of measuring perceptions of effort was the same as before. Gymnasts had to reply to the following question : " Can you show me on this scale which you achieved during a exercice which you were asked to do".

Results

Firstly, we can verify the effect of the advice given feedback. In so doing, the positive or negative comments induce perceptions of competence (M = 6.42) and incompetence (M = 4.5) respectively, $F\ (1,36) = 23.9,\ p < .0001$.

Secondly, we compared the goals chosen by the gymnasts with respect to activation of particular conception of sporting success. Table 1 shows the means and standard deviations of standards induced by the gymnasts depending on the two given conceptions of sporting success. The analysis of variance shows a principal effect of the types of conceptions $F\ (1,36) = 44.36\ ;\ p < .0001$ and the nature of feedback, $F\ (1,36) = 8.47,\ p < .005$ on using self referenced standards. Equally, this analysis produces a large effect of types of conceptions on normative referenced standards, $F\ (1.36) = 33.68,\ p < .001$. As thought, the activation of incremental conception leads sportwomen to choice self referenced standards as opposed to opting for normative referenced goals (T de Scheffe = 29.13, $p < .0001$). On the other end, the activation of entity theory determines the selection of normative referenced standards as opposed to allocation of self referenced goals (T de Scheffe = 33.88, $p < .0001$.

Effects of induced theories about success on subsequent goals

Table 1 :
Means and standard deviations of task involvement goals (IT), learning goals (IA) accomplishment goals (AC), self referenced (AR), social comparaison (CS) hypercompeti tiveness (HC) and socially referenced (IC), normative referenced (NR) in function of conceptions (malleability vs entity) and the nature of received feedback.

Activated conceptions	Feedback	IT	IA	AC	AR	CS	HC	IC	NR
Entity	Positive	5.16 1.44	4.41 1.25	5.47 1.50	5.01 1.39	4.16 1.30	3.83 1.10	3.83 1.10	3.94 1.16
	Negative	3.63 1.43	2.94 1.53	5.41 1.59	3.99 1.51	4.75 1.16	3.16 1.37	4.55 1.14	4.15 1.22
Malleability	Positive	6.38 1.33	5.53 1.93	6.72 .67	6.21 1.31	2.94 .69	2.66 1.09	2.88 1.17	2.82 .98
	Negative	6.88 .21	3.80 1.06	6.91 .20	5.86 .49	1.97 .79	2.61 1.09	3.38 1.09	2.65 .99

Note : the scores are going to 1 (totally in discrepancy) at 7 (totally in agreement)

In more precise way, if we compare two groups of gymnasts (entity vs malleability) according to the nature of feedback allocated, we can see many significative differencies for that which concern the goals which they choose (table 2). The analysis of the table reveals that the gymnasts in "malleability" condition make themselves task involved goals and personal accomplishment goals highter than the gymnasts in "entity" condition. On the other end, this later group gave themselves social comparison goals and collective involved goals significantly higher than their collegues placed in the condition of activation of incremental theory. In this way, the gymnasts of entity condition received a negative feedback made themselves more collective involved feedback than their collegues placed in "malleability" condition who received positive feedback (T de Scheffe = 10.42, $p < .002$) or who were the object of negative feedback (T de Scheffe = 6.45, $p < .01$)

Table 2 :
Comparison between the means of the groups (entity vs malleability) credited with allocated feedback (FB + vs FB-) on task involved goals (IT) accomplishment (AC) social comparison (CS) collective involved goals (IC).

Goals	Comparison	diff. of mean	T of Scheffé
IT :	entity FB+ vs malleability FB+	- 1.22	4.64, p = .0425
	entity FB+ vs malleability FB -	- 1.72	3.97, p =. 0001
	entity FB- vs malleability FB +	- 2.75	10.11, p =. 0001
	entity FB- vs malleability FB -	- 3.25	14.12 p= .0001
AC :	entity FB + vs malleability FB +	- 1.25	6.86, p = .0157
	entity FB + vs malleability FB -	- 1.44	3.15, p =. 002
	entity FB- vs malleability FB-	- 1.5	3.39, p = .002
CS :	entity FB+ vs malleability FB +	+ 1.22	2.86, p = .0001
	entity FB + vs malleability FB-	+ 2.19	9.22, p = .0001
	entity FB - vs malleability FB-	+ 2.78	14.77, p = .000
	entity FB - vs malleability FB+	+ 1.81	6.24, p = .0001
IC :	entity FB- vs malleability FB-	+ 1.17	6.46, p = .0186
	entity FB- vs malleability FB+	+ 1.67	4.33, p=.0064

Discussion

In reference to schemas theories (Anderson, 1983) we can suppose that activation brings implicit theories out of long-term memory into working memory. In turn, the content of working memory increases the activation level of self-relevant information (Rogers, Kuiper, & Kirker, 1977). Therefore, when we activate an incremental conception of gymnastic success in sportwomen,

they give themselves self-referenced goals because they tend to compare their results to personal accomplishment standards : the evaluator is the subject himself. In contrast, when we activate a entity conception in sportwomen, they make themselves normative referenced goals because the motivation to carry out a task is an extrinsic order.

To determine the standards which contribuate the most to differenciate the groups (entity vs malleability) given positive or negative feedback, we carry out a discriminant analysis. The results of multivaried tests are very significant (Wilk's lambda = .026, $p < .0001$; Theta = .842, $p < .0001$). The results confirm those of the analysis of variance. Morever, they show that task involved goals and learning goals possess a different discriminant power and it seems judicious to carry them out.

The fact that young sportwomen benefit in conditions which induce social comparison, collective involved goals when they are given negative feedback, seems to show that these goals assure a self-protection function. Such interpretation seems validate by analysis of effort's attributions. In effect, it is in conditions of activation of incremental theory that negative or positive feedback lead to inference of an overage level of effort, whereas the allocation of self-referenced goals leads gymnasts to infer levels of effort which co-vary with the information of competence produced. The allocation of self-referenced or socially referenced goals with regard to the activation short term memory of contrasting theories of sporting success (malleability vs entity) subsequently led to conceptions more or less differenciated from competence and effort (Jagacinski & Nicholls, 1984, 1987 ; Thill 1993) or the allocation of collective involved goals in heightened individual practice. The gymnasts appear to give back more obscure causal inference process because they allow to "reduce" a self ability's effect in case of failure and to "improve" their credit in case of success (Berglas & Jones, 1978 ; Smith & Strube, 1991).

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BUILDING SELF EFFICACY: EXERCISES IN CONTROLLING MOTIVATION AND BEHAVIOR.

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INTRODUCTION

The contribution of science to the improvement of human performance was an untold story until recently when Hoberman (1992) produced a critique of the unbridled lengths to which early scientists were prepared to go in order to satisfy their curiosity and fascination with the limits of human performance. These pioneers were more interested in performance and athletes were reduced to manipulative objects in their scientific research. While that mentality still lingers in sport, modern sport scientists including sport psychologist are hopefully more mindful that modern strategies are a means to an end and not ends in themselves.

As a sport counsellor working with high performance athletes, I am challenged to address the perceived problems which athletes encounter in their endeavor to achieve greater personal performances at a time in world class sport where deviance is common and the Greek ideal has long been forgotten. This paper is one of several which have resulted from a case study of an international middle distance female runner named Angela who is currently one of the leading runners in the world, winning an Olympic bronze medal in 3,000 metres in Barcelona, and the Grand Prix Circuit winner of the1500 metres in the 1994. In the work conducted in this case study, a physiotherapist with training in physiology and myself were engaged by Angela to assist her in the preparation for international competition in middle distance running. The role of the sport psychologist was to establish, build and reinforce a mental state which would resist the powerful influences which are exerted at race time. Four years of counselling, which has involved interviewing, prescribing, listening and debriefing has shaped the interventions which have been attributed to her success and have formed the basis for the data in this study. The purpose of this paper is to document and demonstrate how psychological interventions used in performance preparation were perceived to contribute to the development of self efficacy.

SELF EFFICACY AND RUNNING

McAuley (1992) has noted that few theoretical approaches in the cognitive framework have been systematically applied as much as attribution theory and self efficacy theory. Although both theories have been employed in the work conducted with Angela, this paper will focus on the latter. The theory of self efficacy was first proposed by Bandura (1977) and holds considerable promise for sport performance in particular and participation in general (McAuley, 1992). Self efficacy is not as concerned with the skills which one may possess as it is with the judgment of what one can do with the skills that he or she possesses, (Bandura, 1986) . The personal judgment which an athlete exercises upon herself is, in our view, a significant factor in the utilization of feedback gained by achievement or failure.

Bandura (1977; 1986) also suggested that self efficacy could be measured along the dimensions of level, strength and generality as they apply to the skills of the task to be accomplished. In the sport of running, skills refer to such factors as: meeting the challenge of other runners, running technique, pace and pain control, concentration, alertness and relaxation control. The dimension of level in running literally refers to the standard of the runners with whom the athlete is racing. The strength dimension of self efficacy indicates with what certainty the athlete views her chances of successfully executing her skills, while the generality dimension is a component which addresses the applicability of the skills to domains other than the one currently occupied. In this case, Angela must be able to enjoy the same strength and level of self efficacy in various events which vary from the 1500 to 5,000 metres, indoors and out, and on flat road runs or running tracks.

These dimensions suggest that running, like all athletic events is comprised of what Bandura called "generative capabilities" (1986, p. 397) in which several components must all be performed in order to deliver an ideal performance. From Angela's perspective, it is seldom that all aspects of a race will be executed ideally and to her complete satisfaction. Nevertheless, she is careful to examine her performances to learn from them and to determine what worked effectively and what did not. For example, when she reviews a video recording of a race, she evaluates and discards the ineffective strategies of the race plan and maintains those aspects of the plan that she attributed to the success. In this way she gradually rebuilds a plan which she believes will be effective in delivering the best possible result.

This process of learning is not only consistent with a performance orientation (Burton, 1992) but also relies on a process of selecting aspects of past performances

which are known to be the most dependable and influential factors which strengthen self efficacy (Locke, Frederick, Lee, & Bobko, 1984; McAuley, 1992). Furthermore, athletes who are oriented towards performance rather than success, tend to be highly motivated to exert high effort in order to attain difficult goals. They will also carefully and constructively evaluate their performances believing that by learning and developing their skills, they will raise their perceived ability and in doing so will develop of strong cognitive links between self possessed skill and the successful achievement of predetermined standards (Diener & Dweck, 1978; Elliott & Dweck, 1988).

SPORT PREPARATION: RELATING SKILLS TO PERCEIVED ABILITY

Although Angela's success is derived in large part from her natural abilities, she recognizes that athletes, at this high performance level, are similarly endowed and any differences between performances are attributed to their mental state. Moreover, while physiological changes have occurred during training and are likely to remain stable up to and during the race, mental states are fragile, unstable and can detrimentally influence the outcome of the performance (Gould and Krane, 1992). To establish a stable mental state, various psychological interventions were introduced to teach Angela how to adopt a performance orientation towards goals setting (Burton, 1992). This orientation was favoured over a success orientation because we believe that competitive performance is more predicable than performance outcome (Burton, 1984;1989). We also wanted to engage Angela in the training process in such a way that she would learn to establish relationships between the application of her skills and the desired outcomes.

We discovered support for this approach in Burton's paper in which he states that performance oriented competitors "base their perceptions of success and failure on self-referent standards including learning and performance improvement" (1992, 279). The psychological counselling also involved feedback to demonstrate to Angela how behaviours both on and off the training track influenced her performance and race outcome. The effort to establish a direct link between personal behaviours, quality of training, positive lifestyle changes and performance was sustained over four years. Finally, Angela was encouraged to set realistic performance goals based on the feedback received during training and to develop strategic race plans under which she would operate during her races. Gradually, these interventions and practices were believed to raise her perceived ability to run faster through learning and developing skills which she considered essential in meeting her performance goals.

Self Efficacy

For Angela running is not a simple matter of running around an oval track as fast as her legs will turn over. She considers a wide range of factors which she feels are important in contributing to excellent performances. These include long and short term preparation, health, physical strength, aerobic power, flexibility, general well being, and a constant surveillance of other personal body indicators. She explained this by saying

> Skill required in running ranges from tactical to physiological. An athlete must have the technical ability in middle distance running in order to maximize efficiency thereby reducing energy expenditure. In addition technical skills are important for developing important physiological components in running such as : weight lifting to develop strength, biomechanical knowledge to develop efficient running style, postural and balance skills to enhance mechanics and flexibility skills to improve leg and arm action.

While Angela indicated that these skills enhanced physiological components, she also indicated that scientific knowledge is a skill which is essential in preparation. She described what athletes need to know in the following manner:

> Physiological skills are developed by employing work loads which train the appropriate energy systems. There are several energy systems in middle distance running which must be trained. Athletes must have a general understanding of the demands they are placing on their bodies and the systems they are training.

Apart from the generative efforts to cultivate improvement, other considerations are also important. Recovery, restoration and correction have been added as to the preparatory process. Angela is acutely aware.of the need to monitor her body and to correct problems as they occur. She is proud of her improvement in this area of preparation:

> I have tried to to improve my mechanics by improving my strength and by doing specific drills and postural exercises. Injury prevention is not really a skill, but it is a key element in my program. Regular physicals and blood work, along with physiotherapy and chiropractic care have all contributed to my athletic development. Compared to four years ago, I have made

> remarkable progress in how I care for my body and I am much more nutritionally aware of what I eat and how it will affect my performance.

Finally, she considered the value of psychological skills which she described as follows:

> The psychological aspect of running is perhaps the most underdeveloped skill in most training programmes. In middle distance running tactics play an important role in determining how a race will result. However, race tactics comprise only one aspect of the mental training necessary for success. Other skills which need to be learned include: relaxation techniques, visualization techniques, goal setting , race planning, race evaluation and communication.

These skills can be considered "generative capabilities" (Bandura, 1986) and form the basis for individual judgment of personal skill in coping with the demands of the competition. Such factors play a significant part in the assessment of skill by athletes and contribute to the overall approach with which an athlete enters the competition. When Angela was asked how she compared with other athletes at the high performance level, she replied:

> I rank my self in the top 3 in the world. I feel that some of the skills I possess are possibly the best when compared to clean athletes in my event. Physical differences at the highest levels between athletes are varied. One athlete may possess great aerobic capacity, while another may have superior speed. Middle distance running relies on a combination of physical skills, and a great middle distance runner must develop a good balance of these skills. I would rank myself in the top 3 runners in the world considering these physical skills. I also believe the psychological skills I have developed are unique and allow me to use my physical skills to their potential and to win races. While it is difficult to measure how much better or worse one athlete is at a certain psychological skill, I believe I can attribute my improved running to the development of my psychological philosophy and skill.

CHANGES IN SELF EFFICACY

In Angela's case, building self efficacy has been a long process. This may be typical of high performance athletes but there is evidence from her own evaluation of her skills and how she uses them in racing to indicate that she has now established a solid belief in what she is capable of accomplishing. There are marked differences in how she approached the events in 1990 and how she approaches them currently.

> Psychologically, my development and improvements have been really exciting. With guidance and counselling I have developed a much more performance oriented philosophy towards running. What is important in this philosophy is that I now look at ***how*** to accomplish my goals (rather than winning) as the most important aspect of athletics.

Self efficacy is tied closely to the understanding of and belief in the skill or qualities one possesses. In the psychological training process, We attempted to focus on what Burton conceptualized as a performance oriented goal-setting style in which the performer is "only interested in raising perceived ability through learning and skill development" (1992, p. 271). Here Angela articulates how a performance orientation contributed to continuous learning about herself and the use of the skills in her possession.

> The result of each competition is only one parameter used to measure my performance. Each race offers me the opportunity to learn and keep improving. Over the past four years I have learned to plan and evaluate races with realistic goals in place. I feel the longer I am in the sport the better I get at using many of the skills I have learned over the course of my career. Although there is probably not a lot left for me to do that will result in big changes I have to continue to improve in smaller steps . I feel I have not completely mastered the psychological skills I have but the biggest improvements I will make will come from what I can do to improve the psychological skills I have now.

In terms of the changes in perceptions about self and the skill development and progress in utilizing those skills, Angela reported in detail. She believes her recent achievements have

not been based simply on the physiological components of running but have more to do with the approach taken before entering the competition.

> In the past I would rely more on instinct when I raced and I believe I did many things very well but never really knew what they were. I rarely felt confident in my abilities and felt as though successful races were more a result of extrinsic circumstances. Now I feel I am a more consistent athlete and I can attribute my success to my efforts and abilities.

The most dramatic revelation in discussing the issue of self efficacy came when Angela described the most profound changes which have attributed to her recent successes in world class running. These changes were described in terms of confidence and creativity in the race plan. She noted:

> What I experienced last season was that while I planned my race it would not always go according to plan and I found myself altering the plan during the race. But I did not feel insecure about this, although I think I was quite shocked to find that I was altering my plan as the race went on. I also found that I began to consciously select ways of running that I would not have dared think about before. I feel that with the confidence now established, I can begin to create ways of thinking about how I want to run and that is exciting. I guess I am now not afraid to risk.

This self observation indicates that changes in the depth of conviction and confidence in trusting her personal judgments have taken place. Angela now feels that with increased creativity to confidently select from a range of options, she is willing to risk more in an effort to discover more about herself and how she can extend the limits of her performance. She is no longer apprehensive about testing her skills in the public domain of racing and welcomes the challenge to learn more about herself and is not overwhelmed by the negative thoughts of failure or getting beaten by her rivals. She now seems to determine how she wishes to run a race and is less willing to accept without challenge the way races unfold. This more pro-active approach may also be another indication that self efficacy has been strengthened .

SUMMARY AND CONCLUSIONS

This paper has attempted to focus on the reported changes of one athlete over the course of four years. While it is impossible to document all the details of that transformation, Angela attributed her progress in large measure to perception. She has learned how to view her participation in terms of performance improvement rather than through a success-orientation goal-setting style (Burton, 1992). This emphasis on learning from past performances and planning for future efforts contributed to Angela's confidence. She sensed that she had developed greater control and that her performances were not attributable to forces or influences external to her. As the belief about her skills strengthened, so did her conviction that she could predict and execute performances extremely accurately.

The dramatic shift in self confidence is manifested through her preoccupation with what she knows she can can do in her next race. She is no longer pre-occupied with other runners as threatening but is empowered to view them only as excellent competitors who will contribute to her performance if and when she is challenged. Most significantly, her progress is now attributed to perceived abilities which are predictable and entirely within her control to utilize.

From the testimony of one athlete it is difficult to claim that self efficacy plays such a key part in the achievements of high performance athletes. Nevertheless, what is important is that Angela experiences satisfaction and pleasure in her endeavors by finding ways to take control of her life. In achieving this, she is motivated to continue searching for better ways to run her races and to live life with a great deal of confidence and optimism built on a strong foundation of self worth.

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RELATIONSHIPS BETWEEN VALUES AND MOTIVES IN SPORT

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Key Words: Children, sport, motivation, values, moral behaviour.

INTRODUCTION

The field of motivation has come to dominate research in paediatric sports psychology in recent years. In particular researchers have paid considerable attention to the effects of goal orientation on children's sport participation, both in isolation and, more interestingly, in relationships to other variables such as perceived ability. At the same time, though less commonly, there have been research programmes devoted to the exploration moral judgement and moral attitudes in sport from both developmental and values perspectives. This has led to an interest in questions which essentially centre on the relationships between moral judgement in sport and individuals motivational perspective. Because the notion of human values implies the identification of motivational forces the relationship between values and motives as currently conceptualised is of particular interest. The purpose of this symposium, and in particular of this paper is to raise some of the issues involved. This will be achieved through an exploration of those issues at the conceptual level, the presentation of some empirical data which throws light upon the debate, and to introduce a model which may facilitate future research.

CONCEPTUAL FOUNDATIONS

In any debate on the relationship between two or more constructs it is helpful to present what is meant by those constructs. In this case I will deal briefly with the notion of values, goal orientations, and an aspect of self-concept known as perceived ability.

Values

The concept of values in this paper draws upon the work of Rokeach (1973) and more recently of Schwartz and his co-workers (e.g. Schwartz, 1992; Schwartz & Bilsky, 1990; Schwartz & Bardi, 1994). Values have been described as "... the criteria people use to select and justify

actions and to evaluate people (including the self) and events." (Schwartz, 1992, p. 1). This definition is derived from the influential views expressed by Rokeach (1973). A key element is the notion that values represent criteria rather than a quantity. While the dichotomous nature of values in Rokeach's view that they represent an enduring belief that a particular end-state of existence (goal) or mode of behaviour (action) was preferable to an opposite goal or action has been questioned it has, nevertheless, provoked considerable thought and research over the last twenty years. Although the distinction between ends and means has been abandoned by Schwartz most features of Rokeach's conceptualisation have remained in his analysis. Thus values are considered to be concepts or beliefs which pertain to desirable goals or actions, transcend situations, guide the selection of behaviour and events and are ordered by importance (Schwartz, 1992). It is the possibility of hierarchichical ordering that sets the concept of value apart from the concept of attitude and makes it of particular value in the study of behaviour in sport which continually provides dilemmas in which values may come into conflict.

Value content: A major facet of Schwartz' analysis of values has been that the primary content of a value is the type of goal that is involved. This proposal acknowledges the motivational concern that is expressed or implicit in a value and immediately draws attention to the motivational influence of a value system for individuals.

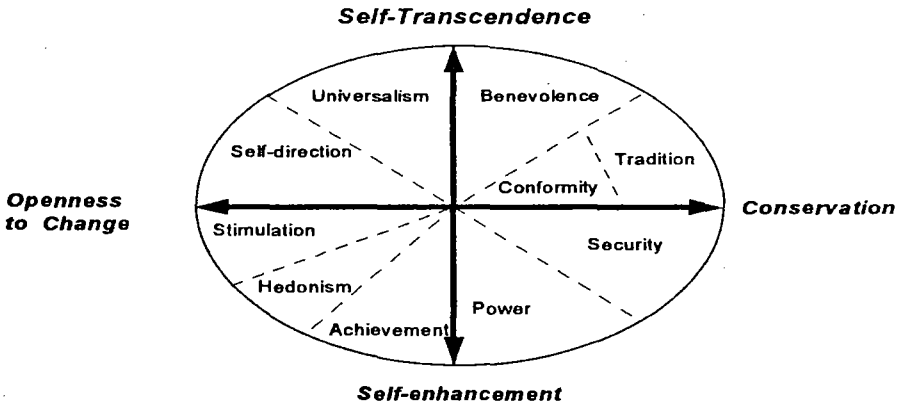

Fig. 1: Relations among Motivational Types of Values. (adapted from Schwartz, 1992)

The theory proposes a set of relations among motivational types such that certain value types are compatible with each other but in conflict with others. The resolution of value conflicts

may, therefore, underpin behavioural decisions. The nature of compatibilities and possible conflicts is expressed in a theoretical model of the structural relations among those value types (see Figure 1.) In the model, which has empirical support, value types are arranged in a two dimensional psychological space representing the dimensions of self-transcendence to self-enhancement and openness to change to conservatism. Within this model compatibilities are considered to arise between adjacent value types and conflicts between opposing value types.

Value Structure and Value Systems: The extent to which values can be said to be compatible or conflicting among social groups is referred to the structure of values. This is not to be confused with the hierarchical ordering of importance by which individuals organise their values into a system representing their priorities among a set of competing "goods" (Schwartz, 1992). The system may be taken to represent the basis for the selection of conflicting goals or actions, i.e. a level of motivation, in individuals. Further the proposal that values transcend situations leads to the conclusion that this system should not change under various conditions or situations. One would expect that one's value priorities would remain stable across settings, i.e. that the values that guide one's behaviour in every life circumstances will be those which guide it in sport.

Motivation

Motivation has become a dominant influence on developmental social psychology in sport in recent years. The basis of the research is the work of John Nicholls (e.g. Nicholls, 1984) who argued that people behave in such as way as to demonstrate high ability and avoid demonstrating low ability (Duda, 1987), that is to say that they like to do what they are good at and avoid doing what they are not good at. Nicholls suggested, and subsequently demonstrated, that the criteria used by children to estimate their ability is subject to developmental differences. Very young children estimate their ability by the success they have in completing tasks they judge to be difficult, i.e. they have an egocentric perspective, but a developmental sequence reveals changes in perceptions of task difficulty, effort, and ability and the criteria used to distinguish them. By about twelve years of age children understand ability as the capacity to perform a task, the outcome being mediated by the effort expended.

Motivational dispositions: In a summary of Nicholls' theory of achievement motivation Duda (1987) points out that a critical component is that people, including children, may have two different orientations towards achievement goals by which they assess their own

competence. On one hand we may subscribe to task-involved goals in which competence is assessed by self-referenced criteria, performing better or worse than previously. On the other we may subscribe to ego-involved goals in which competence is assessed by other referenced criteria, for example demonstrating superiority over others. In the first case performance assessment predominates, in the second it is the outcome.

These two orientations have important implications for ethical conduct in sport. Since they are thought to represent orthogonal behavioural dispositions it follows that individuals may score high on one measure, or both, or on neither. Further, if they represent "dispositions" rather than personality traits then it is acknowledged that situational variables may affect the dominance of one over another in a given situation. Drawing on the body of knowledge provided by Nicholls and Duda, Hodge and Tod (1993) explain how task-orientated athletes may be expected to demonstrate prosocial behaviour while ego-orientated athletes may be expected to ignore principles of fairplay, altruism and justice in the pursuit of success.

Perceived Ability

However, Hodge and Tod's argument is incomplete. Duda (1987) has noted that research indicates that a complete understanding of motivation requires that perceptions of ability are included in the analysis and that demonstrated competence provides the foundation for perceptions of goal attainment. In the light of the current debate it is of particular interest that Duda (1992) has proposed that young athletes' behaviour in sport is affected by the interaction of perceived ability and goal orientation. Specifically children with either high or low perceived ability may be expected to make adaptive responses to sport outcomes if they are disposed to give precedence to task goals, as will ego-oriented children if they have high perceived ability. However, ego-orientated children with low perceived ability may be expected to make maladaptive responses which include rationalisation, diminished effort, cheating and aggression. This is an important modification to the predictions made by Hodge and Tod (1993) since maladaptive behaviour would only be expected in ego-orientated athletes under conditions of low perceived ability, when the athlete is likely to fail, or has already suffered it.

FUTURE DIRECTIONS

This discussion has addressed two related aspects of motivation in an effort to promote a debate on the relationship between the concepts of values and of motivation, particularly insofar as it may help to explain prosocial or antisocial behaviour in sport. Clearly the concept of value is a major component of motivational thought, yet it appears to be broader in scope than the conception of achievement motivation which is currently popular. In order to clarify the relationship perhaps the question to be asked is: Which is the causal influence? Does one's achievement orientation determine one's value system, or vice-versa? Or, perhaps this is too simple a question and the relationship is more complex. Schwartz' (1992) proposal that value types can be described in terms of two fundamental motivational forces: (a) the dimension of self-transcendence to self-enhancement, and (b) openness to change and conservation places fundamental motives at the centre. However, Schwartz' motivational dimensions encompass wider issues than those addressed by contemporary sport psychology, and hence may confront more disparate topics through the medium of value types. It may be pertinent to point out that achievement motivation can readily be identified within Schwartz' model as comprising the achievement value type. This leads to the conclusion that achievement motives as described by Nicholls and other are only part of a value system which influences not only what people select to do and how they do it, but also what they consider to be desirable in it.

Relationships between the individual and environmental variables

Finally let me turn to the question of social influence on children's participation and behavioural tendencies. The most influential research into moral behaviour in sport has come from Bredemeier and Shields (see Shields & Bredemeier, 1994, for review) and has been founded upon the structural-developmental theories of Kohlberg (e.g. Kohlberg, 1969) and Haan (1978). This reliance results in a necessarily limited view of the determinants of moral behaviour since it relegates, to a minor role, the influence of others. In other words we have a developmental social psychology which pays only limited attention to the social dimension. Shields and Bredemeier (1994) recognise this and propose a comprehensive model of moral action which takes account of contextual influences. However, there remain questions regarding the social influence processes by which young people (athletes) come to a consistent view of the appropriateness of particular forms of behaviour in sport. That is: who is influential in the development of a moral perspective at different stages of development?

Perhaps it here that the study of the development of sport relevant values and motives may be fruitful.

A research model: To this end I offer a tentative model to guide future research. It adopts an interactionist perceptive to pose questions about the process which account for particular behaviour patterns. The interaction of individual characteristics with environmental influences can be expected to influence cognitive, affective, and behavioural outcomes. The model includes the variables which are discussed in this paper, while recognising that there may be others which merit consideration.

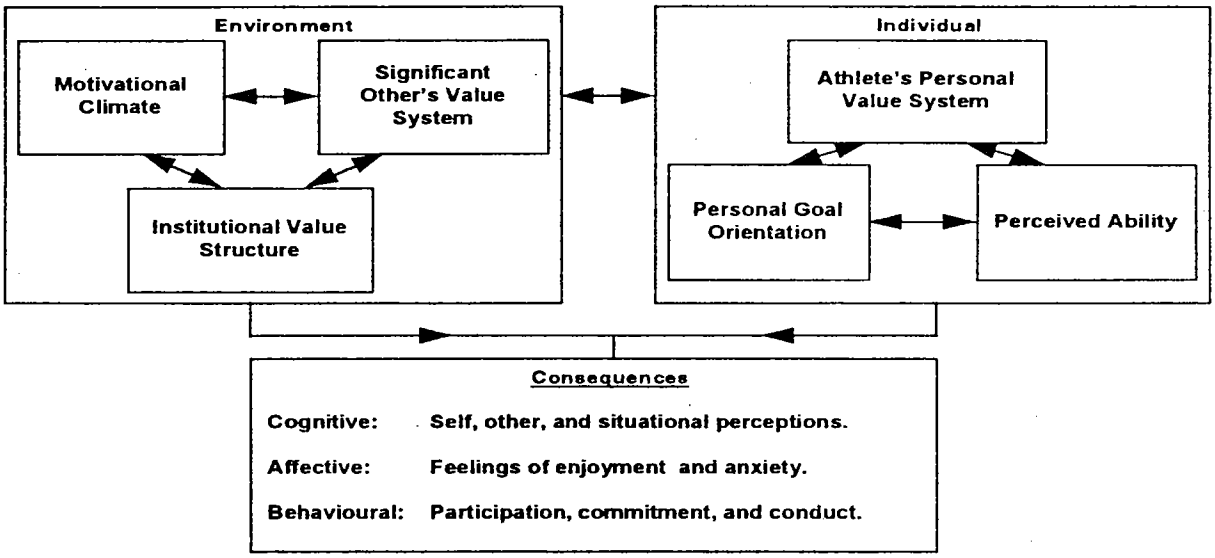

Fig. 2: Model of possible Relationships among Value, Ability, and Motivational Constructs as Predictors of Behaviour.[1]

Environment

Institutional value structure is the predominant value structure which holds within the institution, e.g. club or school, and which is reflected by patterns of reinforcement and sanctions. It reflects wider concerns than that of achievement motivation alone.

Significant other's value system is the value system exhibited, consciously or unconsciously, by a person, or persons, with influence on the development of the

[1] The author wishes to acknowledge the contribution of Liz Jones (De Montfort Univerisity) in developing these ideas.

individual in question at a particular time. This may include parents, teachers coaches, peers, and role models.

Motivational climate refers to the predominant mode of motivational orientation existing within the salient social institution, i.e. task or ego.

Individual

Personal value system is the pattern of ordering of value priorities expressed by the individual.

Personal Goal Orientation is the dominant personal goal orientation exhibited by an individual.

Perceived ability is the level of competence at a specific task perceived by the individual.

Consequences

Cognitive: Perceptions of self, others, and the situation.

Affective: Feelings of anxiety and enjoyment, and self-esteem.

Behavioural: Commitment to the activity, fairplay, participation patterns, aggression.

The relationship between these components is currently problematic in that there does not appear to be any research which has explored them. Nevertheless the model provides a mechanism for developing hypotheses which may help us better to understand the relationships between individual and environmental variables on sporting behaviour.

Conclusion

Two valuable research strategies address related issues in children's sport. Both motivational research and values research have a contribution to make to the understanding of how best to present sport to children and how to ensure positive outcomes from the experiences which follow. This paper suggests that the two fields may relate to each other and be productively brought together through the use of an interactive model to explore relationships between different individual and environmental variables. The implications of such an exercise are that it will help us to understand better the processes which guide children's behaviour in sport and the social influences at different stages of their development which cause them to make critical decisions in their sport, and perhaps in their lives.

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The relationship of goal orientations to perceived purposes of training among elite athletes.

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One contemporary, cognitively based approach to the study of motivation is based on the goal perspective theories of motivated behavior. This line of research is primarily concerned with the social, psychological, and behavioral antecedends and consequenses of two goal perspectives - a task orientation and an ego orientation (e.g., Ames,1984, 1992; Elliott & Dweck, 1988; Maehr & Braskamp, 1986; Nicholls, 1981, 1984a,b, 1989). It is assumed that two main conceptions of ability exist, namely a task-oriented conception and an ego-oriented conception of ability, and that these two conceptions of ability manifest themselves through the adoption of a goal perspective consistent with the conception of ability.

A task oriented goal perspective is assumed to exist when an individual has an interest in the activity for its own sake and the individual's actions are aimed at achieving mastery, learning, or perfecting a skill. The individual evaluates personal performance to determine whether mastery has been achieved, and thereby ability demonstrated. This assessment is self-referenced, and success is realized when mastery is demonstrated (Elliott & Dweck, 1988; Nicholls, 1981, 1984a, b, 1989; Maehr & Braskamp, 1986). When an ego oriented goal perspective is assumed to exist, an individual's actions are aimed at exceeding the performance of others. The individuals's focal concern is with social comparison and ability is demonstrated when own performance exceeds that of the comparison others (Elliott & Dweck, 1988; Nicholls, 1981, 1984a, b, 1989; Maehr & Braskamp, 1986).

The existence of the goal perspectives in sport and physical education contexts has been demonstrated by many researchers (e.g., Duda, 1989; Ewing, 1981; Jackson & Roberts, 1992; Roberts, Treasure & Hall, 1994; Roberts & Balague, 1989; 1991; Roberts & Ommundsen, 1994; Papaioannou & Mcdonnald, 1993; Solmon & Boone,

1993). Moreover, many of the hypothezised relationships between goal perspectives and achievement behaviors such as participation motivation, task choice, performance, dropping out of sport, persistence, and intensity of striving have been supported (e.g. White & Duda, 1994; Burton, 1989, Duda, 1988; 1989, 1992, Ewing, 1981; Hall, 1990, Jackson & Roberts, 1992, Tappe, Duda & Ernwald, 1988, Vealey, 1986; Solmon & Boone, 1993).

Nicholls (1989), however, argues that goal perspectives are more than just different types of motivational goals. Motivational goals also correspond to "world views", and in particular, different perceptions about the values and benefits of education. He suggests that when individuals are preoccupied with comparing their competence with others in educational contexts, they will be apt to perceive their involvement as a means to gaining social status and recognition. By contrast, task oriented individuals who enjoy mastery and the learning process do not consider attaining superiority among others an important goal. In stead, they are assumed to have a greater focal concern with values and benefits of sports such as pleasure, sociability and cooperation.

Nicholls and colleges (Nicholls, Patashnick & Nolen, 1985) have demonstrated in the education domain that an ego oriented perspective had a strong relationship with the view that education is a means to an end, and that education should bring one wealth and status. A task oriented perspective, on the other hand, had a strong relationship with education as an end in itself and that education meant being socially committed, having a commitment to learning, and understanding and mastering material.

In sport, Duda (1989), Roberts, Hall, Jackson, Kimiecik, & Tonymon, (1991) and Roberts & Ommundsen (1994) replicated the work of Nicholls and colleagues (1985). A task oriented goal perspective was related to the view that sport should foster honesty and respect, enhance one's self-esteem, and teach people to try their best, cooperate, and be a good citizen (Duda, 1989), and foster social responsibility, lifetime health and skills (Roberts et al., 1991; Roberts & Ommundsen, 1994). An ego oriented goal perspective, on the other hand, was related to the view that sport should enhance