

DISCUSSION AND CONCLUSIONS

Athlete preferences of leadership styles in rugby are consistent with previous research reported in other sports. In fact, although in some studies the athletes have indicated the Reward or Positive Feedback behaviors as the most preferred (e.g., Chelladurai, 1984; Chelladurai et al., 1988), generally the Training and Instruction behaviors seem the most preferred by athletes (e.g., Chelladurai et al., 1987; Fonseca et al., 1994; Serpa, 1990)

Also for the decision making behaviors our data - less preference of athletes for autocratic behaviors - are consistent with the results of other studies carried out with athletes from other sports (e.g., Fonseca et al., 1994; Chelladurai, 1984; Chelladurai et al., 1984).

Although athletes, in generality, appear to prefer democratic behaviors, predominant sport coach behaviors in decision making seem to be autocratic (Fonseca et al., 1994). This suggestion is also supported by our results of athlete preferences and coach perceptions about reality. Curiously, coaches believed that athletes prefer autocratic behaviors. Coaches have evidenced little knowledge about their athlete leadership behavior preferences. In fact, the coaches' perceptions about the athlete preferences were not similar to the athlete preferences neither on interaction style behaviors (Reward or Positive Feedback for coaches and Training and Instruction for athletes) nor on decision style behaviors (Autocratic for coaches and Democratic for athletes). These results are not consistent with a previous study (Fonseca et al., 1994) carried out with a club soccer team. However, this may be a function of that study has been carried with a national team, which have less time to training than a club team.

According to Vanfraechem-Raway (1992), the coach knowledge about his athletes are correlated with the quality of his coach-athlete relationship and of his team efficacy. So, considering that in a national team coaches and athletes spend less time together than in a club team, and that discrepancies between athlete preferences and coaches' perceptions of leadership styles could be a potential source of conflicts between coaches and athletes, we believe that national coaches, if possible, should dedicate more effort than their club team colleagues to increase the efficacy of their communication channels.

Our data may also suggest that athletes and coaches wished that their relationship will become more intense. If we consider coaches' perceptions of their own behaviors as an reflex of reality, we find that both athlete preferences and coaches' opinions about ideal behaviors for their athletes were higher than reality. Further research should prove, or disprove, this hypothesis.

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CONFLICTS IN INTERACTING COACH-SPORTSMAN

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The traditions of the analysis of the interaction of coach-sportsman composed in the sports psychology are oriented to research of the optimal form of cooperation. But the decision of these problems assume alongside with the study of positive factors /the climate, correlations, style of behavior/ the study of negative aspects, in particular, the conflicts.

The fullness of the study in the real life environment can't be achieved without the study of anomalies in the intercourse. The theoretical problems that are not decided create considerable difficulties in the applied research of the conflict.

The functional role of the conflict is in the necessity and purposement of changes in the correlations of coach-sportsman. From the point of view of aims the conflict reflect the aspiration of the people to approve the idea, principle, action, type of behavior. From the point of view of the condition of interpersonal relations the conflict is a destruction of them on the emotional or behavioral level.

The problem of methods of research is one of the most important. It is determined by the role, that the scientific method plays in the development of the science itself and in practical value of knowledge that the science receives. Several directions in the usage of the methods of the research of the interpersonal relations in the sports psychology are singled out.

The first of them is the retrospective one. It is in the description of the conflicts that took place in the past. The research of the conflicts is conducted by using different methods /conversation, interview, the study of memoirs of the coaches and sportsmen/, but not using a united list. The participants of the conflict, object, occasions, reasons, methods and receptions of counteracting, outcome, consequences etc. are analysed.

The scientific trustworthy depends on the people describing the conflict; on the complex of the sistematization of the data /reasons, structure, dinamic, consequences etc./ and it is not defined by clearing of the formal and individual-psychological characteristics of the people under test.

The second method is experimental. This one consists of the modelling of the real life collisions. This research is connected with the difficulties of the organizing and morals aspect. The most important is in the modelling of the motivation, that is a defining one for any parameters of the conflict.

The third direction is the study of such conflictable phenomena as the tensity in the treatment of coach-sportsman the inclination towards the aggressive behavior, the presence of opposing mikrogroups in the team. Various personal questionnaires and variants of the socio-research are used for this purpose. The information that is got represents the data about the self-appreciation of the people in typical conflict situations. The interpretation of the concrete behavior in any situation requires the considerable experience of the psychologists.

The scheme of the research of the conflicts in interacting coach-sportsman included the following elements: defining of the essence of the conflict, the classification of conflicts, defining of the functional meaning, clearing up the reasons and the sources of conflicts, the diagnostics of the personal characteristics.

The following kinds of conflicts are marked:

1. Conflicts of the activity that appear in the training process. Reasons: the inability of the usage of the didactic means, unconsidered volume of the physical loading, the wrong choice of the means of the rehabilitation etc.

2. Conflicts of the behavior /action/. Reasons: the mistakes of the coach in the analysis of the results of the competitions, the situational appreciation of the technical actions

of the sportsmen, the unadequate reaction of the psychological condition of the sportsman etc.

3. Conflicts of the relations. Reasons: prevailing of the role relations over personal ones, the interference of the coach into the relationship of the sportsmen, dictating of the coach's will which can be expressed in the coach's egocentrism. The sportsman needs the psychological defence from the coach.

The psychological mechanisms and the sources of the display of the egocentrism of the coach were studied experimentally.

The analysis of the probable sources of the functional egocentrism of the coach and especially his or her subjective preconditions permits to suppose the existence of the deep personal features, that can be diagnosed and corrected in the process of the psychotherapy.

The modified variant of the methods of T. Leary was applied in the investigations. With the help of it the types of the interpersonal behavior and the quality of the person that influence on the interpersonal relations can be defined: commanding-leading, independent-delicate, straightlined-aggressive, distrusting-sceptical, submissive-shy, dependent-obeying, collaborating-conventional, responsible-magnanimous.

The participants of the conflicts have evaluated themselves and the opponent according to this method. The interpretation of the data collection permitted to reveal the typical forms of the behavior and to define what composition of the individual forms of the behavior is accepted by the participants of the interaction as a conflict.

Two variants of the forms of the display of conflicts were singled out: the conflict of the pretensions /of status/ and the conflict of the dependence.

The first type of the conflict appears in the definite composition of the forms of the personal behavior of the participants of the conflict. The coach and the sportsman have the predomination of the nonconforming tendencies, of the

independence of opinions, of the persistence in defending of their points of view, of the domination of the leaderes tendencias. This composition of the characteristics of the behavior gives the base for defining of this type of the conflict as a conflict of the pertentions, of the status. This conflict permits to influence on the form of the values. The personal qualities of domination, commanding, staightlining, distructing are typical for the participants of this conflict.

The second type of the conflict is characterised by another composition of qualities. The domination of the conflict statments, uncertainty, complaisence to the opinion of others, the inclination to compromises, dependence of the self-appriiation, on the surrounding seaking of the confession of the more respected persons, the limited ability to defend one"soun opinion are marked in sportsmen. In this case the qualities of the coach have usually a contrary meaning and are displayed in the behavior.

The analisis of the peculiarities of the interpersonal behavior of the participants of the conflict in the process of corelations coach-sportsman permitted draw the following conclusions:

1. The personal qualities of the participants of the interaction are the expressed determinators of the conflicts.
2. The style of the behavior in the conflict depends on the status of the opponent.
3. The conflict of the pretentions accompanies the competition of the destruction of the interpersonal relations.
4. The conflict of the dependence is characterised by the internal experience and the lowering of the self-appreciation much more often.

Coach-athlete relationship

COACH-ATHLETE RELATIONSHIP AND EVALUATION OF TRAINING SESSIONS

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KEY WORDS

Leadership Scale for Sports, athletes' perception of coaches, coaches' perception of themselves, expert evaluation

INTRODUCTION

The coach-athlete relationship is an important factor and a basis for successful training. The aim of this paper is to examine, how the similarity of the coaches' and athletes' perceptions of the leadership style is related to the evaluation of training sessions.

According to a multidimensional model of leadership in coaching, there are three areas of leader behavior: required behavior, actual behavior and preferred behavior (Chelladurai, 1980, 1990). If these factors are congruent, athletes should be satisfied and perform well. This assumption has been empirically supported (Horne and Carron, 1985; Garland and Barry, 1988; Dwyer and Fischer, 1990).

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For empirical testing of the theory, Chelladurai and Saleh (1980) constructed the Leadership Scale for Sports (LSS). It consists of 40 items which assess five dimensions of leader behavior in coaching: training and instruction, democratic behavior, autocratic behavior, social support behavior and rewarding behavior. The psychometric properties of the scale have proven satisfactory except for internal consistency of autocratic behavior (Chelladurai and Saleh, 1980; Westre and Weiss, 1991; Hastie, 1993; Salminen and Liukkonen, 1994).

Previous studies have shown that there are gender differences concerning athletes' expectations of the leader behavior of coaches. Males expected more autocratic and social supportive behavior than females (Chelladurai and Saleh, 1978; Terry, 1984). Females, in turn, expected coaches to be more democratic in decision making than males (Chelladurai and Saleh, 1978; Chelladurai and Arnott, 1985; Chelladurai, Haggerty, and Baxter, 1989).

It has also been shown, that athletes' perceptions of coaching style differed considerably from the coaches' self assessed leader behavior. Coaches proved to be more autocratic than the athletes wished (Chelladurai, Haggerty, and Baxter, 1989; Prapavessis and Gordon, 1989; Chelladurai, 1990) or assessed (Salminen, Liukkonen, and Telama, 1992) them to be. The similarity of the coaches' and athletes' ratings on the Leadership Scale for Sports was associated with their evaluations of the coach-athlete relationship (Prapavessis and Gordon, 1989), the observed behavior of coaches in training sessions (Salminen and Liukkonen, 1993) as well as the effectiveness of coaches (Laughlin and Laughlin, 1994).

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METHOD AND PROCEDURE

Subjects were 68 Finnish coaches and their 400 athletes. The number of athletes per one coach varied from one to 23. There were 41 male and 27 female coaches from various sports. They had 265 boys and 135 girls, 9 to 18 years old, as trainees.

The coaches completed the self-rating version of the Leadership Scale for Sports (Chelladurai and Saleh, 1980). The athletes were requested to rate the leadership style of their coaches using the LSS rating form. Both forms were back-translated into Finnish. The internal consistency estimates (Cronbach's alpha coefficient) were acceptable for training and instruction (.82), democratic behavior (.76), social support behavior (.69), and rewarding behavior (.75) but not for autocratic behavior (.30).

Physical education experts assessed the coaches' behavior in training sessions using a rating scale consisting of 35 items. The evaluated behaviors were classified into five factors: teaching arrangements, communication skills, working methods, interaction between coach and athletes, and the assessment of trainees. The reliability of the evaluation was examined with the Pearson product-moment correlation coefficients between two independent experts. The mean correlation coefficient across the various rated items was .69 (29 training sessions), which can be regarded as satisfactory.

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RESULTS

Table 1 shows that coaches evaluated themselves more training and instruction giving, socially supportive and rewarding than athletes did. They also assessed themselves less democratic and autocratic than athletes did.

TABLE 1. Coaches' and Athletes' Perceptions of Coaching Behaviors in Training

Dimensions	Coaches		Athletes		Difference	T-test
	M	SD	M	SD		
	(n=68)		(n=400)			
Instruction	3.98	0.44	3.80	0.39	0.18	p<0.05
Democracy	3.01	0.57	3.21	0.42	-0.20	p<0.05
Autocracy	2.48	0.45	2.73	0.48	-0.25	p<0.01
Soc. support	3.54	0.51	3.10	0.41	0.44	p<0.001
Rewarding	4.35	0.45	3.90	0.49	0.45	p<0.001

TABLE 2. Evaluation of Coaches by Gender

Factors	Males		Females		T-test
	(n=62)		(n=41)		
	M	SD	M	SD	
Teaching arrangements	14.98	1.94	15.26	2.25	n.s.
Communication skills	25.41	2.50	24.85	3.41	p<0.05
Working methods	10.76	2.69	9.38	1.68	p<0.01
Interaction	22.59	2.67	23.38	3.33	n.s.
Assessment of athl.	22.41	3.34	22.51	3.17	n.s.

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The observers assessed that male coaches had significantly better communication skills and working methods than female coaches (Table 2). Women, however, were slightly but not significantly better in teaching arrangements, in interaction between coach and athletes, and in the assessment of trainees.

There were no significant correlations between the five factors of evaluation and the five dimensions of the LSS. There were, however, 12 statistically significant correlations between the items of evaluation list and the similarity of coaches' and athletes' ratings of coaches' leadership style.

The more similar the coaches' and athletes' ratings of coaches' training and instruction giving were, the better were the arrangement skills of coaches (.32) and the more educational aspects were found in training sessions (.29). The same similarity was negatively correlated with the amount (-.30) and the target (-.33) of the negative feedback given by the coaches. The consensus between coaches and athletes about the socially supportive behavior of coaches was related to the arrangement skills of coaches (.33) and educational aspects in training sessions (.29).

The more similar the coaches' and athletes' ratings of the democratic behavior of coaches were, the more attentive the athletes were (.38). The consensus between coaches and athletes about the autocratic behavior of coaches was related to the correctness of coaches' modelling (.28) and the differentiation into separate groups with different tasks (.32). There were positive correlations between the similarity of the coaches' and athletes' ratings of the rewarding behavior of coaches and teaching arrangements (.33), the audibility (.33) and the clarity (.29) of the coaches' speech.

DISCUSSION

The results of the study showed, that coaches' and athletes' ratings of leader behavior in coaches differed significantly. Coaches seemed to evaluate themselves in a more positive way than their athletes did. This is quite understandable, because people in general tend to overestimate their own socially desirable characteristics and underestimate undesirable ones.

The evaluation of training sessions showed that male coaches had better communication skills and working methods than female ones. Probably this reflects more authoritarian leadership style of male coaches resulting in the giving of orders more directly.

Training and instruction, as well as rewarding behavior were the dimensions of the Leadership Scale for Sports, which exhibited most significant correlations with the evaluation of training sessions. Teaching arrangements and communication skills were most often related to the LSS-dimensions. These results implicate that pedagogical skills of coaches determinate the atmosphere of training sessions.

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P.2.3. PREDICTION ORIENTATION

USING PHYSICAL ABILITIES TO PREDICT FUTURE PERFORMANCES IN TENNIS.

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KEY WORDS

abilities, task analysis, performance criterion, talent detection.

INTRODUCTION.

The detection of future high level athletes constitutes a determining challenge for sports federations. Early success in sports rarely confirm high level results in the future. This observation is particularly true in tennis even when players are taken care by the tennis federation. The fundamental question is to identify steady patterns that may lead to the highest level of practice.

The paradigm of abilities developed by Fleishman seems to constitute a very heuristic chart likely to corroborate the judgment of coaches in detecting future talents.

This chart puts aside the level of abilities and allows to identify steady patterns that enable to achieve performances.

This form of communication has several goals :

- to show the inefficiency at predicting the influence the initial performance has on the final one.
- to examine the stability of the physical abilities measured through a chosen category of tennismen.
- finally, to prove the real predictive power of these abilities after 4 years of practice with various performance records.

METHOD AND PROCEDURES.

52 tennismen (mean age 13) were involved in the experiment which take place in the detection program organised in I.N.S.E.P. psychological department. During four years. 9 tests

chosen by 12 federation expert coaches in the EUROFIT battery for their importance in high level tennis practice are used to measure 7 physical abilities (Fleishman's indirect task analysis method) : legs dynamic and explosive strength, arms dynamic and explosive strength, trunk strength, stamina and extent flexibility.

The dependant variable is the French method ranking in one hand, and the following performances clues in the other issued from a task analysis regarding to required abilities : points won on serve, points won after long exchanges, points won with the speed of the ball, points won at net and points won regarding to the player's moving efficiency. These sub performances were identify with the same French expert federation coaches.

Several experiments have been conducted :

- First, correlations between federal ranking performances across four years have been calculated to show the predictive power limitation of the initial performance on the final one for the age of 16.
- Then, the predicting power of the required abilities is examined according to their stability in order to know at what age this prediction can be pronounced.
- Finally, correlations between performances and abilities were also calculated in order to identify predictive power of tests at the age of 13 regarding to the final 16 year performances.

RESULTS.

a) Predictive Power of Federal Association over 4 years.

	FFR 13	FFR 14	FFR 15
FFR 14	0.757**		
FFR 15	0.288*	0.533**	
FFR 16	-0.063	0.212	0.620**

TABLE 1 : Correlation matrix between french ranking performances.

(* correlations are significant at $p \leq .05$, ** $p \leq .01$).

FFR : French federal ranking.

The correlation matrix show a typical quasi-simplex profile and a gradual drift of the predictive power can be observed over time : -.063 for the age of 16 (FFR 16) considering initial 13 years performance (FFR 13).

b) Stability of Aptitudes.

	1(13)	2(13)	2(14)	3(13)	4(13)	5(13)	6(13)	7(13)	7(14)	8(13)	9(13)	9(14)
FFR 14	.68**	.55**		.98**	.60**	.98**	.64**	.44*		.96**	.11	
FFR 15	.68**	.28	.67**	.85**	.60**	.87**	.81**	.39	.83**	.93**	-.15	.96**
FFR 16	.52*	.52*	.52*	.75**	.41*	.83**	.80**	.10	.82**	.92**	.22	.67*

TABLE 2 : Correlation between tested abilities over time.

(* correlations are significant at $p \leq .05$, ** $p \leq .01$).

Tests : 1. trunk strength, 2. legs explosive strength (long jump), 3. arms dynamic strength, 4. legs explosive strength (Sargent test), 5. legs dynamic strength (10 x 5m shuttle run), 6. arms explosive strength, 7. legs dynamic strength (30m running speed), 8. stamina, 9. extent flexibility.

FFR : French federal ranking.

All the tests recorded by the French Tennis Federation prove to be stable from one year to the other from the age of 13 with the exception of three of them : legs dynamic (30m running speed test), explosive strength (long jump) and extent flexibility that become stable only at the age of 14.

c) Correlation between Abilities Tests and Federal Ranking.

	1	2	3	4	5	6	7	8	9
FFR 13	-.06	.23	.00	.02	.16	.11	.00	-.05	-.07
FFR 14	.02	.00	.00	-.11	.02	-.28	.21	-.06	.05
FFR 15	-.16	.11	.09	-.02	.14	.08	.07	-.06	.06
FFR 16	-.14	-.04	-.17	-.13	.02	.02	.02	-.04	.00

TABLE 3 : Correlations between tests and each year performance.

Tests : 1. trunk strength, 2. legs explosive strength (long jump), 3. arms dynamic strength, 4. legs explosive strength (Sargent test), 5. legs dynamic strength (10 x 5m shuttle run), 6. arms explosive strength, 7. legs dynamic strength (30m running speed), 8. stamina, 9. extent flexibility.

FFR : French federal ranking.

Table 3 shows that no significant correlation appears between the French Federal Ranking and the performances achieved during the 4 years both tests and tennis practice.

d) Relationship between Performance Sub Criteria from Task Analysis..

	A	B	C	D
B	.777**			
C	-.659**	-.402**		
D	-.359**	-.138	.534**	
E	.656**	.583**	-.408**	-.207

TABLE 4 : Correlation matrix between performance sub criteria at the age of 16.

(** correlations are significant at $p \leq .01$).

Performance criteria : A. points won on serve, B. points won with the speed of the ball, C. points won after long exchanges, D. points won regarding to the player's moving efficiency, E. points won at net.

Significant correlations were found between service performance, speed given to the ball and points won at net in one hand . On the other, performance obtained in player's moving accuracy marks relationships with points won after long exchanges.

e) Correlation between Abilities Tests and Performances Criteria.

	A	B	C	D	E
1	-.174	.069	-.065	.497**	-.045
2	.22	.271	-.210	-.02	.227
3	-.207	-.164	.138	.479**	.128
4	.432**	.365**	-.197	-.108	.317
5	.375**	.396**	.170	.153	.427**
6	.497**	.124	.190	.008	.301
7	.133	.179	.046	.357**	.213
8	.027	.017	-.008	.178	.096
9	.153	.081	-.223	-.127	-.075

TABLE 5 : Correlations between abilities tests and performances criteria.

(** correlations are significant at $p \leq .01$).

Tests : 1. trunk strength, 2. legs explosive strength (long jump), 3. arms dynamic strength, 4. legs explosive strength (Sargent test), 5. legs dynamic strength (10 x 5m shuttle run), 6. arms explosive strength, 7. legs dynamic strength (30m running speed), 8. stamina, 9. extent flexibility.

Performance criteria : A. points won on serve, B. points won with the speed of the ball, C. points won after long exchanges, D. points won regarding to the player's moving efficiency, E. points won at net.

The correlation matrix shows very interesting links between the tested abilities and the fields of performances : significant correlations were found between service performance, legs dynamic (.43) and explosive strength (.50) and arms explosive strength (.37). Speed given to the ball with legs dynamic (.40) and (.36) explosive strength. Performance obtained in player's moving accuracy marks relationships with trunk strength (.50), arms dynamic strength (.48) and legs dynamic strength (.36). Points won at net can be predicted with legs dynamic strength (.43). These results are more significant than correlations between the first and the last ranking federal performance (-.06).

DISCUSSION AND CONCLUSIONS.

The french type of ranking doesn't allow the prediction of performances by the fourth year of training (16 years old players).

On the other hand, the physical abilities used for this study are much more stable and can be predicted for the 16 years old from the scores on tests recorded at the age of 13 with the exception of three of them whose performance could not be predicted before the age of 14.

Nevertheless these abilities have no relationship with the performance represented by the french federal ranking.

According to these results, it seems possible to conclude that, in tennis, the ranking is not restricted to only physical abilities but it also calls on other resources like perception and decision taking which are very much in demand.

The performance criteria issued from task analysis are by far more exploitative :

- Service performance can be predicted by legs dynamic and explosive strength and arms explosive strength recorded on tests at the age of 13. These links are not surprising and show that dynamic strength from both arms and legs are necessary in showing the differences on this type of tasks.
- Speed given to the ball can be predicted by legs dynamic and explosive strength. This result evokes an additional evidence on the role the leg movement plays in the acceleration of the ball.
- Performance obtained in player's moving accuracy marks relationships with trunk strength , arms dynamic strength and legs dynamic strength. We can suppose that this pattern can be linked to some ball returns in extreme situations when the work of the lower limbs

compensates the upper limbs, especially when the player stretches to reach the ball or when the body is in rotational movement.

- The performance in scoring while volleying at the net seems to be more related to the dynamic strength of the lower limbs, that is to say, to the players running speed. But this observation is not really a surprise.

It is to be noted that the performance that consists in winning a long rally has nothing to do with any physical ability previously tested in this study, nor with cardiovascular endurance as expected. Perhaps this kind of performance constitutes a clue which has not been studied accurately enough and which should be re-examined.

Correlations made between performance criteria allow to observe two archetypal style of players : the player at the net with better performances in points won at serve, points won with speed given to the ball and points won at net and the player at the back with better performances obtained in moving accuracy and points won after long exchanges.

This study shows that performances can only be predicted regarding abilities with criteria issued from the task analysis. Many experiments have encountered difficulties in discovering abilities that predict individual differences at highly level of performance (Fleishman, 1972) because of insufficient performance data (for a review, see Ackermann, 1990).

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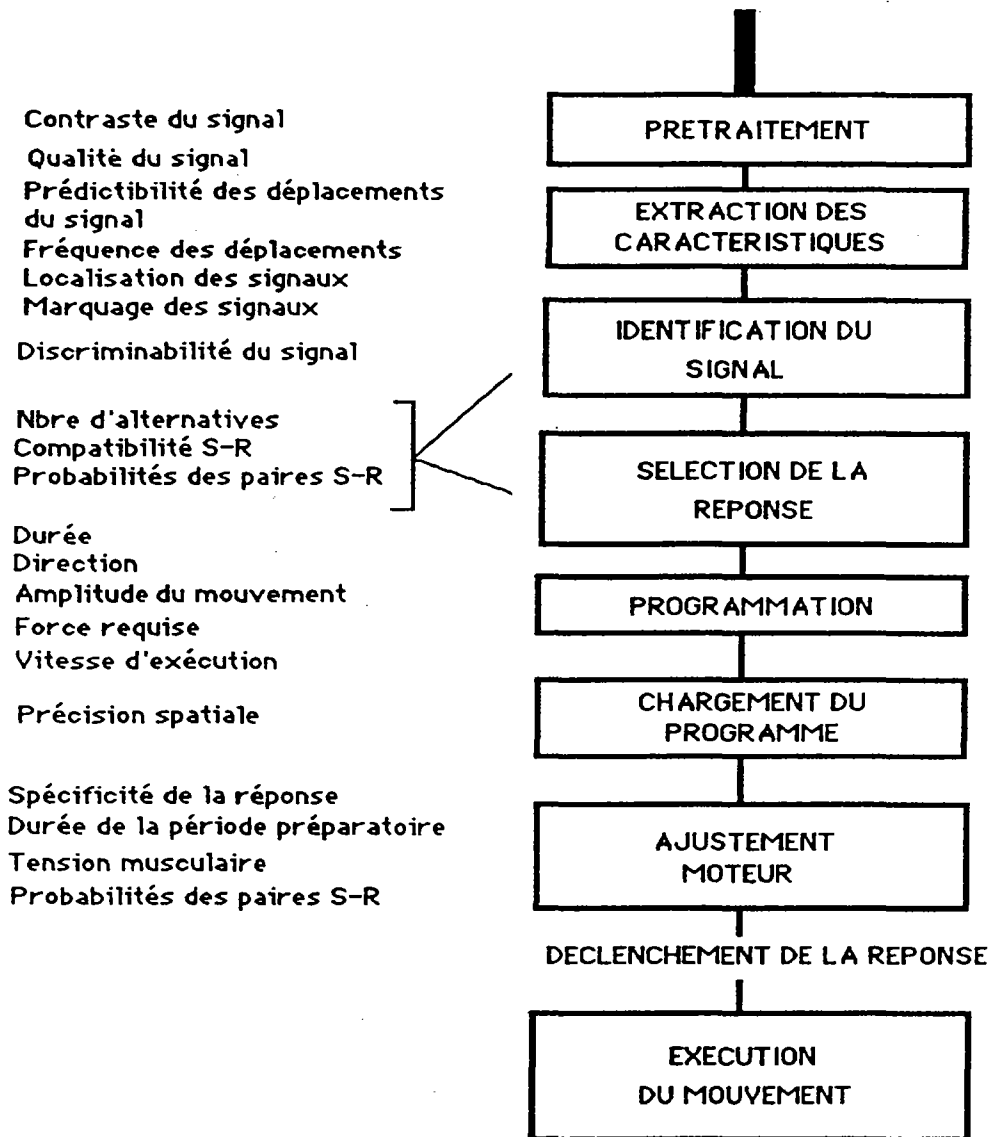


Figure 6 : Stades de traitement de l'information et caractéristiques de la tâche (modifié d'après Sanders, 1990). Les différents stades centraux sont identifiés grâce à la méthode des facteurs additifs. On remarque que certaines variables affectent plusieurs stades de traitement.

COMPETITIVE ORIENTATION OF THE ITALIAN YOUNG ATHLETES

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Key words: Competitiveness, Goal, Win, Young athletes.

The knowledge of individual differences is useful in order to know the young attitude towards competitive sport situations: so important for coaches, teachers and sport psychologists, because they can take from these information practical implications for their everyday activity. Competitiveness represents the "sport-specific" form of the achievement motivation. Different authors (Duda, 1992; Gill & Deeter, 1988; Roberts, 1984; Vealey, 1986) have studied the competitive orientation in sport. Most of research that have been conducted, even if different in their theoretical approach, showed some common characteristics. In fact, they underline at least two main motivational orientations: goal orientation and outcome orientation. In the first condition the young's action is directed to reach specific goals like mastery and subjective improvement, with little concern for comparison of ability. In this situation the sport competence perceived is related to the personal standard of improvement. At the contrary, when an athlete is mainly outcome oriented, he is engaged to demonstrate greater ability than others, and the competence perceived is increased by positive results in competitions. Aim of this investigation has been to verify the model proposed by Gill and colleagues (Gill, 1988; Gill & Deeter, 1988; Gill & Dzewaltowski, 1988; Gill, Dzewaltowski, & Deeter, 1988). It comes from the Spence and Helmreich's work (1983) on achievement orientation and describes three factors: competitiveness, win orientation and goal orientation. Competitiveness is the dominant factor and "reflects an enjoyment of competition and a desire to enter and strive for success in competitive

sport achievement settings" (Gill, 1993, p.318). The others two dimensions are related to different orientation to achievement. Win orientation emphasizes the desire to win and his focus is on interpersonal comparison, whereas goal orientation suggests the desire to reach personal performance standards. It has been showed (Gill & Deeter, 1988), comparing students vs athletes, that this last group shows scores significantly higher on all three factors, and competitiveness is the major discriminator between the groups. Gender differences have been showed too: males higher on competitiveness and win orientation, and females higher on goal orientation. Furthermore, data from athletes samples revealed (Gill & Dzewaltowski, 1988) that they are not uniformly oriented towards the win, as suggested by the common sense, at the contrary differences in the achievement orientation have been identified, with particular reference to gender x sport interaction. Aim of this research is to study this achievement orientation on a significant sample of Italian athletes, verifying the validity of the Gill's model in a sport system different from USA context.

METHOD

Sample

The Research Department of the Italian Olympic Committee's Sport School contacted its regional organizations to reach young athletes from all over the Italy. Boys and girls aged between 9-18 years were randomly selected as representative of national "major" sports practised in Italy (basketball, gymnastics, judo, track and field athletics, soccer, swimming, tennis, volleyball, weight lifting, and wrestling). Some national "minor" sports have also been chosen to reflect regional opportunities. Subjects (N=2589) were requested to complete the inventory. The sample was distributed representatively over the country: in fact is included 44% in the North, 20% in the Center and 36% in the South and Islands ac-

cording to sport national population distribution. The sample comprised 54.5% males and 45.5% females, with a homogeneous distribution in the three geographical areas. Subjects were also divided into three age classes according to school attended: elementary school, up to 11 years (23.4%); secondary school, 12-14 years (40.4%); high school, older than 14 years (36.2%). The "minor" sports, i.e. sports which have a restricted number of participants in Italy, have been placed into two categories: "other individual sports" and "other team sports".

The questionnaire

The Sport Orientation Questionnaire (SOQ) has been created by Gill & Deeter (1988) and it is a sport-specific multidimensional measure of achievement orientation. The SOQ is composed by 25-items, which should assess three achievement dimensions: competitiveness, win orientation and goal orientation. Psychometric evidence for the validity, internal consistency and reliability are reported in Gill and Deeter (1988). The translation of the questionnaire has been made following the method of the independent translations by two experts in sport psychology. Furthermore, the comprehension of the items has been tested: a) through a pilot work, administering the questionnaire to boys and girls ($n = 45$), age 9-14, practicing sport regularly and b) by four experts (coaches and researchers) in youth sport who revised some items. Responses to each of the 25 items were given on a 7-point scale ranging from 1 = not at all important to 7 = extremely important. This change, from the 5-point scale, as in the Gill's original version, to a 7-point scale has been made to permit to the subjects to graduate their answers in a better way.

RESULTS

First goal was to test the factorial structure based on three di-

mensions (competitiveness, win and goal orientation). This structure has not been verified in the whole sample as in the subsamples related to gender and age. For what concerns the whole sample three factors have been identified but they only partially accord with the Gill's model. The first factor is strictly related to the items of *win* subscale (item 14, 18, 22, 2, 10, and 6) but to three items of the competitiveness subscale too (item 13, 15, and 25). Actually, these last items are related to the concept of "supremacy over the others" and express the desire to have success in the sport competitions ("My goal is to be the best athlete possible", "I want to be successful in sports", and "I want to be the best every time I compete"). The second factor is related to the items of *goal* subscale (item 4, 8, 12, 16, 20, and 24) but also with most of those related to the competitiveness subscale (item 5, 11, 17, 21, and 23). The third factor is less relevant, if compared with Gill and Deeter (1988) results, and includes four items of the competitiveness subscale (item 1, 3, 7, and 9). These results are fairly consistent independently of gender and age level. These data do not permit to distinguish between competitiveness and the other two factors and this is the main difference with the model and results reported by Gill and colleagues: how much does this difference rise from the sample structure and from the questionnaire structure? Among the absences of the questionnaire we identified: a) the item complexity, the terminology is difficult for the young of 9-12 years, whereas the sample of Gill and Deeter (1988) was composed by older (college or university) students; b) the characteristics of the items concerning the goal orientation, that are specifics for the individual sports, so probably the athletes practicing team sports have not recognized their goals in the sentences of the questionnaire, and consequently they flattened their answers. Referring to sample structural differences it can be said: a) all the subjects of this research are athletes

practicing sport on regular basis, while the three-factorial structure has been found in mixt groups (athletes and non-athletes). b) the Italian sample, as said before, was more young. When the age grows up and the years of sport practice decreases, as confirms of these suggestions, it has been found that the structure tends to the three-factorial one. For the whole sample it seems more useful a bi-factorial structure instead of a three-factorial one and the dimensions can be defined: win, clearly identified, and goal, with some elements related to competitiveness. This last solution has been deeply studied, after having removed some items: 4, for its communality too much low and 1, 3, 7, and 9 only related to the third marginal factor. The bi-factorial structure (Table 1) seems more logical and it has been proposed for subgroups characterized by low age level (9-11 years) and/or with many years of sport practice: these groups are composed by athletes with an homogenous and high level of competitiveness, which can be oriented towards win or to reach personal goals. Using the factors scores resulting from the factor analysis on 20-item it has been realized a graphic (Figure 1). It comes out that all the team sports show the same coordinate on the horizontal axis (goal), whereas on the vertical axis (win) the football and "others team sports" have a positive coordinate, and basketball and volleyball a negative one. Males are more win and goal oriented, whereas females are on the opposite side of the graph, where there is also who practice sport looking for socialization* and to be physically fit. It can be seen that these categories are more win oriented: young up to 11 years, people living in South/Islands, wrestlers, athletes of martial arts and tennis players. On the other side, more goal involved are the young practicing "other individual

* The motivational dimensions related to the socialization, fitness, status, skill improving and competition have been identified in a previous study (Buonamano, Cei, & Mussino, 1993) carried out on the same sample.

sports" and those oriented to increase their skill level. Concluding, the results revealed two achievement dimensions: win and goal orientation. This structure differs from the Gill's model and it is consistent with the construct of task and ego orientation (Roberts, 1992). Finally, young more motivated by affiliative motives or practicing team sports could show problems to answer to items clearly oriented only in terms of individual achievement.

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TABLE 1. FACTOR ANALYSIS WITH VARIMAX ROTATION ON THE WHOLE SAMPLE

N	ITEM	FACTORS	
		1	2
16	Performing to the best of my ability is very important to me	.64	
12	I try hardest when I have a specific goal	.64	
20	Reaching personal performance goals is very important to me	.64	
8	I am most competitive when I try to achieve personal goal	.60	
24	The best way to determine my ability is to set a goal and try to reach it	.59	
5	I try my hardest to win	.55	
21	I look forward to the opportunity to test my skills in competition	.53	
17	I work hard to be successful in sports	.52	
23	I perform my best when I am competing against an opponent	.51	
19	The best test of my ability is competing against others	.45	
11	I thrive on competition	.44	
4	I set goals for myself when I compete	.39	
14	The only time I am satisfied is when I win		.75
25	I want to be the best every time I compete		.67
18	Losing upsets me		.65
2	Winning is important		.60
22	I have the most fun when I win		.59
10	I hate to lose		.58
13	My goal is to be the best athlete possible		.52
15	I want to be successful in sport		.55
6	Scoring more points than my opponent is very important to me		.47

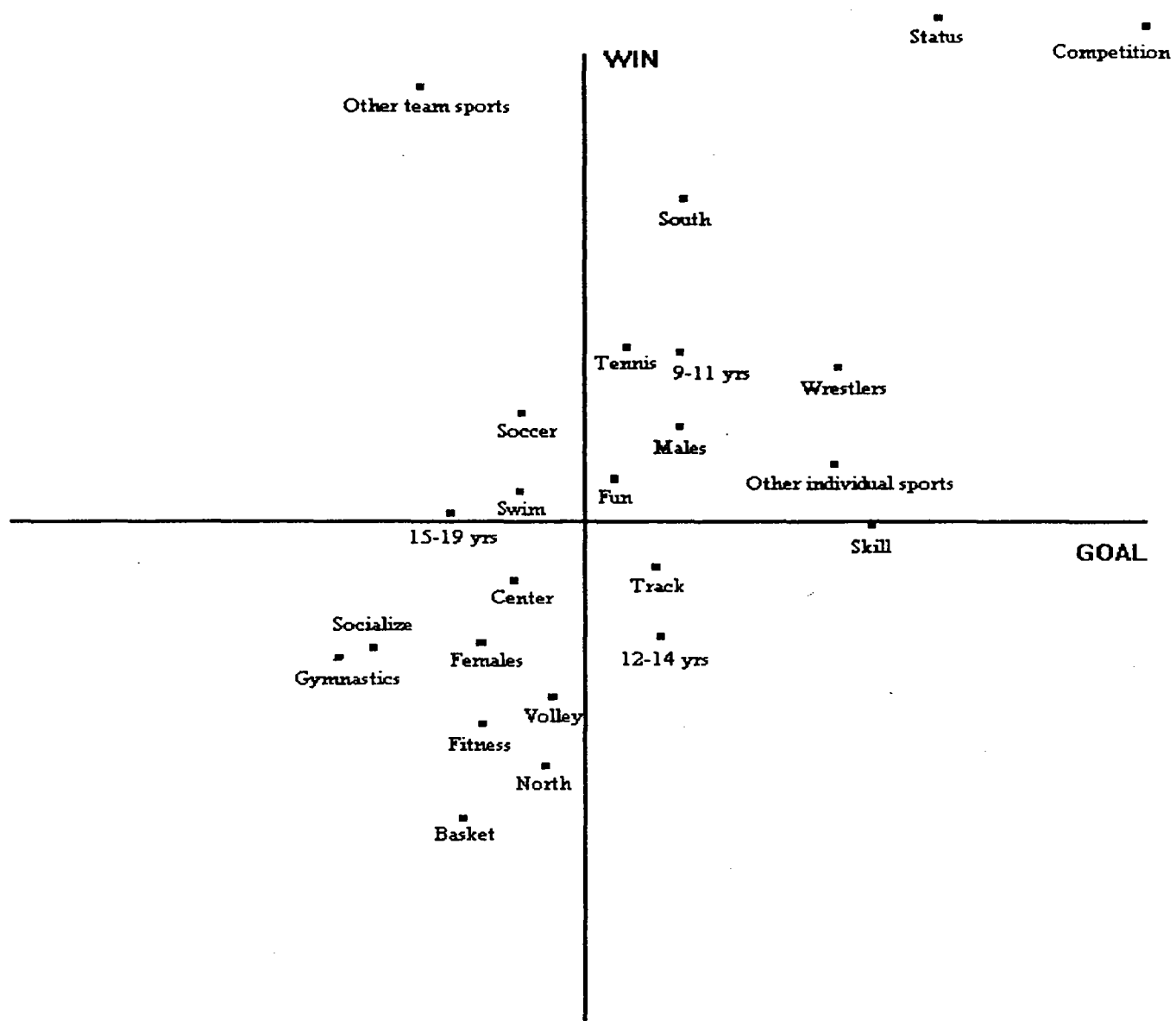


Figure 1. Comparison between win and goal orientation and the variables studied (age, gender, sport, geographic area of residence and motives to practice).

**EXCLUSIVE ATHLETIC IDENTITY: A PREDICTOR OF POSITIVE OR NEGATIVE
PSYCHOLOGICAL CHARACTERISTICS?**

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INTRODUCTION

Athletic identity can be defined as the degree to which the individual identifies with the athletic role (Brewer, Van Raalte, & Linder, 1993b). A strong, exclusive athletic identity has been further predicted to lead to a vulnerability to emotional difficulties from injury, career termination, dependent career decision making style, and overtraining (Good, Brewer, Petitpas, Van Raalte, & Mahar, 1993; Pearson & Petitpas, 1990). In contrast, these authors also proposed it as an aid in developing self identity, enhancing athletic performance, and generating exercise participation.

Brewer (1990) designed the Athletic Identity Measurement Scale (AIMS) to measure this potent concept. The 10 question seven point Likert scale seemed to be reliable, ($r = .89$) and the initial factor analysis produced a unidimensional concept (Brewer et al., 1993b). Evidence of discriminant validity was provided by nonsignificant correlations between the AIMS and the Rosenberg (1965) Self Esteem Scale, social desirability, perceived sports competence, and sport skill level (Brewer, Van Raalte, & Linder, 1993b). No gender differences in AIMS scores have been found (Good et al., 1991; Van Raalte & Cook, 1991) when a sample of highly involved collegiate athletes (NCAA Division II) was analysed. Weak negative correlations between the age of athletes and AIMS scores have also been reported (Brewer et al., 1993b).

Prior research has not used more elite Division I intercollegiate athletes nor has it examined other potential behavioural deficiencies of a strong athletic identity among college athletes, such as academic achievement and performance enhancing drug usage. Therefore, one purpose of the present research was to replicate findings of initial research showing no relationship with gender, self esteem scores, and year in school (Brewer et al., 1993b). In addition, a further purpose was to examine other potential relationships with negative psychological characteristics (decreased academic achievement and drug use) in a larger sample of elite college athletes.

More recently, Brewer, Boin, and Petitpas (1993a) have begun to question the unidimensional nature of the AIMS scale. The initial validation study (Brewer et al., 1993b) used a sample of both athletes and non-athletes, and high athlete scores may have provided the unidimensional factor. Findings of a new exploratory factor analysis in purely single sport samples (Brewer, 1990; Brewer et al., 1993a) revealed a multidimensional three-factor solution. Four items appeared to construct a "social identity" cluster, representing the extent to which the individual views him/herself as occupying the role of "athlete". A second four-item factor was dubbed "exclusivity", or the extent to which an individual's self worth is determined solely by performance

in the athlete role. The remaining items were named as "negative affectivity", or the extent to which an individual experiences negative affect in response to undesirable outcomes in the sport domain.

To date, only one study has examined the new factor cluster with disabled swimmers (Martin & Lynch, 1994). Based on the contrasting factor solutions produced by Brewer and colleagues, it is necessary to re-analyse the construct of the dimension to see which is favored. Therefore, this study also undertook another factor analysis with a larger athletic sample that combined data from three athletic cohorts collected over a three-year period and consisting of a mix of 28 American intercollegiate sports.

METHOD AND PROCEDURE

Subjects

As part of a larger drug education survey, three separate athletic cohorts from three consecutive years (1992, N = 267, 151 males, 116 females; 1993, N = 208, 139 males, 79 females; 1994, N = 228, 133 males, 85 females) of enrollment at a large American midwestern university completed the test battery. Athletes participated in 28 different intercollegiate sports ranging from individual sports (e.g., swimming, athletics, etc.) to team sports (e.g., American football, soccer, etc.) and were enrolled in their first year ("freshman"), second year ("sophomore"), and fourth year ("senior").

Instruments

All subjects completed a battery of self report measures as part of a survey given to athletes over a four period as part of a larger drug education program for athletes. The questionnaires included: the 10-item Rosenberg (1979) Self Esteem Scale, the 10-item AIMS (Brewer et al., 1990), a 10-item drug use risk factor scale created from a literature search (Hale, Waalkes, Kenep, Lynch, Wang, & Bennell, 1994), questions asking about drug use to obtain a gold medal and the importance of academic achievement, and background information including their college grade point average (GPA).

Procedure

All data was obtained confidentially by student-athletes completing the test battery during a freshman life skills class, in a drug prevention workshop, and in private settings. Athletes were reminded to provide honest responses to help researchers determine any possible relationships between drug use and selected variables for future workshops.

RESULTS

Unidimensional Statistical Analyses

The initial inferential statistical analyses were undertaken as part of a previous research project, and at the time the unidimensional concept was the accepted means of measuring athletic identity. Self esteem (Rosenberg, 1979) and risk factor scale (Hale et al., 1994) scores were computed by reversing scores on negatively-worded questions and adding to positively-worded questions. Responses on the academic importance and GPA (greater or less than 2.5 GPA) questions were collapsed into two groups of high and low scorers by dividing subjects on either end of the Likert scales.

An independent t-test on gender differences in AIMS scores was nonsignificant. As in other studies, a significant difference in self esteem scores ($t(1,701) = -5.89, p < .001$) existed between the genders, with males higher in general self esteem ($M = 15.28$) than females ($M = 17.33$) (lower score indicates higher self esteem). A Pearson product-moment correlation between AIMS and self esteem scores was nonsignificant.

In the area of academic achievement, a marginally significant independent t-test ($t(1,706) = -1.91, p = .06$) indicated that athletes who placed little emphasis on academic achievement ($M = 50.20$) scored higher on the AIMS (indicating a narrow athletic identity) than high achievement-oriented athletes ($M = 47.85$). When athletes were divided by selected GPA achievement, the results were nonsignificant, although means were in the same direction as the prior computation.

In answer to a question asking if athletes would take a performance-enhancing drug to gain a gold medal but lose 10 years of their life, willing users scored significantly higher ($t(1,687) = 3.72, p < .001$) in athletic identity ($M = 51.73$) than non-users ($M = 47.61$). For the risk factor scale associated with drug taking, AIMS scores correlated significantly ($r = .15, p < .001$) with the measure, although again the variance accounted for was miniscule.

Factor Analysis

In an attempt to replicate the recent findings of Brewer et al. (1993a) about the multidimensional nature of the AIMS instrument, a principal components factor analysis ($N = 711$) with a varimax rotation was performed on the AIMS data. Similar to the Brewer et al. (1993a) findings, three factors accounted for 61.3% of the variance (see Table 1). Consistent with previous findings (Brewer, 1990; Brewer et al., 1993a), the factors were interpreted as representing social identity (items 1, 2, 3; eigen value = 3.67), exclusivity (items 4,5,6, 9; eigen value = 1.42), and negative affectivity (items 8,10; eigen value = 1.04).

TABLE 1. Factor Loadings of AIMS items with a Varimax Rotation

AIMS Item	Factor		
	1	2	3
1	.82		
2	.79		
3	.57		
4		.75	
5		.76	
6		.52	
7			
8			.87
9		.82	
10			.73
eigenvalue	3.67	1.42	1.04

Note: Factor loadings below .50 are omitted.

The mean AIMS score is similar to means calculated in past unidimensional studies (Brewer, 1990; Brewer et al., 1993b; Good et al., 1993). Adequate internal consistency was demonstrated for the AIMS (Cronbach's $r = .80$).

DISCUSSION AND CONCLUSIONS

When the AIMS is analysed as a unidimensional factor, the present findings support past findings that have predicted its usefulness as a mediator of other psychological life transition

variables. In support of its initial validity, it has shown little relationship with general self esteem and no gender differences (Brewer et al., 1993b). This study has also pointed to two new possible areas of life achievement and adjustment for athletes where the AIMS may predict detrimental behavioural patterns: academic achievement and drug use. Athletes whose only perceived role in life is predominantly tied to athletic participation may run the risk of underemphasising academic achievements and using potentially harmful drugs to achieve athletic goals.

Unfortunately, all prior results using the AIMS to investigate beneficial and harmful behaviours associated with the athlete role are now called into question based on the results several exploratory factor analyses (Brewer, 1990; Brewer et al., 1993a) and the more comprehensive present investigation. It now appears that the AIMS is measuring a multidimensional concept comprised of three factors--social identity, exclusivity, and negative affectivity. Although the results of this study closely replicate the findings of the earlier factor analysis, there are subtle differences in findings. Item 9 did not negatively load on factor 1 as it did in the Brewer et al. (1993a) study. Future researchers must be concerned about the small number of items on each one of the AIMS factors; more items may have to be developed in future to ensure adequate internal consistency. In addition, prior investigations that used the unidimensional concept will have to be re-analysed with the three factor scales to see if athletic identity will still predict the same positive or negative relationships with different subscales. It may be that only the "exclusivity" subscale is associated with possible drug use and decreased interest in academic achievement. Furthermore, since item 7 did not load on any factor, the instrument is again weakened. Were the original findings of Brewer and colleagues and the present results with the unidimensional scale just spurious, or is there a superordinate measure of athletic identity that must be fully described? Future research must quickly resolve this dilemma by providing more exploratory factor analyses with a variety of athletic samples or this measure may die a quick death from lack of construct validity.

Once this issue is settled, then this measure can be put to predictive explanation of athletic behaviour. Both cross cultural and longitudinal research should examine the construct in non-American university samples and across the lifespan. On the downside, the AIMS could be an effective indicator of detrimental transitional behaviour in sport, including overtraining, injury, and career termination. On the plus side, it could also help identify individuals who are well on their way to regular athletic and exercise participation and stable identity formation. All this applied research will await the results of future investigations examining the factor validity of the current AIMS which must clearly define the dimensions of athletic identity.

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PREDICTORS OF PRECOMPETITIVE COGNITIVE-EMOTIONAL STATES ¹

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KEY WORDS: anxiety, worries, confidence, perceived control, coping, vigor, tension, calmness, boredom.

INTRODUCTION

In order to explain the interaction between sport performance and psychological states, to predict the precompetitive and competitive states, and to design and evaluate psychological interventions, a multi-factorial assessment approach is required regarding the predisposition and situational psychological variables. Further, based on accepted cognitive-behavioral models and theories (e.g., Lazarus & Folkman, 1984; Martens, Vealey & Burton, 1990b), variables such as expectancies of outcome control, ways of coping, the importance and the uncertainty of the situation should be taken into account, in combination with anxiety and confidence.

The general purpose of this study was to examine the relationship of the sport-specific cognitive schemata (predisposition variables) and situational characteristics with selected factors of the subjective cognitive-emotional states in athletes, before competition. Seven factors were considered in the analysis of the subjective competitive state, that is, cognitive anxiety, somatic anxiety, self-confidence, vigor, tension, calmness, and boredom. The selection of these factors was based on: (a) the distinction of cognitive, somatic and emotional elements of anxiety (e.g., Davidson & Schwartz, 1976; Morris, Davis & Hutchings, 1981), (b) the simultaneous measurement of positive and negative components of psychological states (e.g., Martens et al., 1990b; Watson, Clark & Tellegen, 1988), (c) the acceptance of the orthogonal model of relationship between stress and arousal (Kerr, 1985; Martens, 1987), and (d) the acceptance of a two-dimensional approach in the relationship between activation and affect (Thayer, 1978).

The specific purposes of this study are: (a) to investigate the function of sport specific trait variables (anxiety, worries, confidence, coping, and perceived outcome control) and selected situational characteristics (possibility of goal achievement, importance of goal achievement, importance of the competition, and perceived control of the outcome) as predictors of states variables, and (b) to examine the differences between prospective and retrospective measures of precompetitive states on the amount of explained variance and the kind of significant predictors.

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METHOD

Subjects. The subjects of this study were 270 athletes (172 males and 92 females), with a mean age of 20.3 years and a mean competitive experience of 5.8 years. Specifically, the subjects were: track and field runners ($n_1=66$) and jumpers ($n_2=72$), swimmers ($n_3=63$), and target shooters ($n_4=69$).

Questionnaires. To assess trait sport anxiety, the Sport Competition Anxiety Test (SCAT; Martens, 1977) as it was adapted for the Greek population (Zervas & Kakkos, 1990), was used.

The Competitive Worries Inventory (CWI; Kakkos, 1991, 1994) was used to measure the frequency and the intensity of worry which is typically experienced by the athletes in competitive situations. The CWI contains five subscales which assess performance worries, social evaluation worries, worries due to the uncertainty and the importance of the situation, worries due to feelings of personal inadequacy, and worries caused by attribution to external factors.

A modification of the Trait Sport Confidence Inventory (TSCI; Vealey, 1986), adapted for the Greek population (Kakkos, 1994), was used to measure the magnitude of sport self-confidence predisposition in various competitive situations.

The Generalized Appraisals of Outcome Control Scale (GAOCS; Kakkos, 1994) was used to evaluate the frequency and the intensity of outcome perceived control attributed by the athletes to internal-personal and external factors. The GAOCS consists of two subscales, the internal control scale (5 items) and the external control scale (9 items).

The Ways of Coping in Sport Inventory (WCSI), developed and validated in Greek sport population (Kakkos, 1994), based on previous relative work (e.g. Crocker, 1992; Folkman & Lazarus, 1988), was also used. The WCSI consists of four main subscales to assess: (a) cognitive appraisal coping (6 items), (b) active coping (7 items), (c) passive coping (7 items), and (d) seeking social support (5 items). Subjects respond on a 4-point Likert scale based on how often they use the described way of coping before competition.

For the assessment of the cognitive-emotional precompetitive state two questionnaires were utilized. A modified version of Competitive State Anxiety Inventory-2 (CSAI-2; Martens, Burton, Vealey, Bump, & Smith, 1990a), adapted and validated for Greek population (Kakkos, 1994), was used to measure cognitive state anxiety (cognitive A-state), somatic state anxiety (somatic A-state) and state self-confidence. Each subscale contains 5 items and the subjects rated these items on a 4-point Likert scale. The Affective State Inventory (ASI; Kakkos, 1994) was used to measure vigor, tension, boredom and calmness. The ASI consists of 24 items which have

a 5-point Likert response format. The development and the validation of this instrument was based on relative work in the area of mood states and affect (e.g., Watson et al., 1988; Thayer, 1978a,b).

For the assessment of the specific situational characteristics, five additional items were also included in the state response form (CSAI-2 and ASI), evaluating: (a) the possibility of goal achievement, (b) the importance of goal achievement, (c) the importance attributed to the competition, (d) the perceived personal control of the outcome, and (e) the perceived external control of the outcome. The subjects rated these items on 9-point Likert scales.

Procedure. The procedure of this study included the following phases: (a) the selection of the sample, the agreement of the participants, and the background and demographic information, (b) the completion of the trait questionnaires (SCAT, CWI, TSCI, GAOCS, and WCSI) in non-competitive situations, (c) the completion of the state questionnaires (CSAI-2, ASI, and the additional items) retrospectively, based on how the subjects had felt before competition, recalling two recent events, and (d) the completion of the states questionnaires in two competitions (about 15-30 min. before the event).

RESULTS

The internal consistency of trait variables, as measured by Cronbach's alpha coefficient, ranged from a moderate to a high level (SCAT .91, TSCI .92, CWI .73-.81, GAOCS .58-.82, WCSI .64-.74). All the state variables (CSAI-2 and ASI subscales) achieved acceptable alpha coefficients (cognitive A-state .81-.86, somatic A-state .78-.85, self-confidence .88-.91, vigor .88-.90, tension .83-.88, calmness .85-.87, boredom .76-.85).

The method of statistical analysis was the stepwise multiple regression. Stepwise procedures were used because no a priori order was warranted and because stepwise analyses determine the best predictor among similar variables that share variance. Summary statistics of the regression procedures are shown in Table 1 (CSAI-2 variables) and Table 2 (ASI variables).

The results revealed that the mean amounts of explained variance in precompetitive completions are greater than retrospective completions in the cases of cognitive A-state (8%) and boredom (13%). In contrast, greater mean amounts of explained variance in retrospective measures were found in somatic A-state (9%) and tension (1.5%). No differences existed between precompetitive and retrospective measures in the other state variables (state-confidence, vigor, and calmness).

TABLE 1. Stepwise Multiple Regression Summary: Significant Predictors of CSAI-2 Variables

DEPENDENT VARIABLES	game*	step	PREDICTOR VARIABLES	R	R ²	Beta
Cognitive A-state	1p	1	Performance Worries	.53	.28	.27
		2	Importance of the competition	.59	.34	.21
		3	Possibility of goal achievement	.63	.40	-.20
		4	Trait Sport Anxiety	.66	.44	.20
		5	Cognitive Appraisal Coping	.68	.44	-.21
		6	Internal factor of GAOC	.69	.47	.11
		7	Social Evaluation Worries	.69	.48	.12
Somatic A-state	1p	1	Trait Sport Anxiety	.55	.30	.45
		2	Possibility of goal achievement	.57	.33	-.16
		3	Trait Sport Confidence	.59	.35	-.17
State Confidence	1p	1	Possibility of goal achievement	.53	.28	.47
		2	Trait Sport Confidence	.66	.43	.27
		3	Cognitive Appraisal Coping	.68	.46	.18
		4	Uncertainty-Importance Worries	.69	.47	-.14
		5	Importance of goal achievement	.70	.49	.11
Cognitive A-state	2p	1	Performance Worries	.58	.34	.22
		2	External Perceived Control	.65	.42	.27
		3	Possibility of goal achievement	.69	.47	-.24
		4	Trait Sport Anxiety	.72	.52	.30
Somatic A-state	2p	1	Uncertainty-Importance Worries	.50	.25	.33
		2	Trait Sport Anxiety	.54	.29	.26
State Confidence	2p	1	Possibility of goal achievement	.56	.32	.44
		2	Performance Worries	.71	.50	-.35
		3	Active Coping	.74	.55	.24
Cognitive A-state	1r	1	Performance Worries	.56	.31	.36
		2	Uncertainty-Importance Worries	.60	.36	.21
		3	Possibility of goal achievement	.63	.40	-.23
		4	Importance of the competition	.67	.44	.22
		5	Social Evaluation Worries	.68	.46	.14
Somatic A-state	1r	1	Trait Sport Anxiety	.67	.44	.63
		2	Personal Inadequacy Worries	.68	.46	.13
State Confidence	1r	1	Possibility of goal achievement	.54	.29	.40
		2	Trait Sport Confidence	.67	.45	.30
		3	Uncertainty-Importance Worries	.70	.49	-.22
		4	Active Coping	.71	.50	.09
		5	External Perceived Control	.71	.51	-.12
		6	External factor of GAOC	.72	.52	.12
Cognitive A-state	2r	1	Performance Worries	.48	.23	.26
		2	Possibility of goal achievement	.54	.29	-.28
		3	Social Evaluation Worries	.58	.34	.18
		4	Uncertainty-Importance Worries	.60	.36	.13
		5	Social Support Coping	.61	.37	.14
		6	Importance of the competition	.62	.38	.12
Somatic A-state	2r	1	Trait Sport Anxiety	.52	.27	.41
		2	Possibility of goal achievement	.56	.31	-.22
		3	Personal Inadequacy Worries	.59	.35	.18
		4	Social Support Coping	.60	.36	.12
State Confidence	2r	1	Possibility of goal achievement	.62	.38	.50
		2	Trait Sport Confidence	.67	.45	.13
		3	Uncertainty-Importance Worries	.69	.47	-.20
		4	Importance of the competition	.70	.49	.16
		5	Internal factor of GAOC	.71	.51	.12
		6	Cognitive Appraisal Coping	.72	.52	.11

* 1p & 2p: 1st & 2nd completion before the competition
 1r & 2r: 1st & 2nd completion retrospectively

TABLE 2. Stepwise Multiple Regression Summary: Significant Predictors of ASI Variables

DEPENDENT VARIABLES	game*	step	PREDICTOR VARIABLES	R	R ²	Beta
Vigor	1p	1	Cognitive Appraisal Coping	.36	.13	.27
		2	Possibility of goal achievement	.47	.22	.26
		3	Importance of goal achievement	.49	.24	.18
		4	Trait Sport Confidence	.51	.26	.18
		5	Social Support Coping	.53	.28	.12
Tension	1p	1	Trait Sport Anxiety	.51	.26	.34
		2	Performance Worries	.54	.29	.21
		3	Possibility of goal achievement	.57	.33	-.16
		4	Cognitive Appraisal Coping	.58	.34	-.12
Calmness	1p	1	Trait Sport Anxiety	.48	.23	-.42
		2	Cognitive Appraisal Coping	.54	.29	.26
Boredom	1p	1	Possibility of goal achievement	.28	.08	-.19
		2	Active Coping	.36	.13	-.22
		3	Social Evaluation Worries	.39	.16	.19
		4	Social Support Coping	.43	.19	-.24
		5	Passive Coping	.46	.21	.19
		6	Importance of goal achievement	.48	.23	-.15
Vigor	2p	1	Importance of goal achievement	.44	.20	.30
		2	Active Coping	.59	.35	.28
		3	Trait Sport Confidence	.62	.39	.29
		4	Social Evaluation Worries	.65	.43	.27
		5	Possibility of goal achievement	.69	.47	.24
Tension	2p	1	Performance Worries	.54	.29	.43
		2	Social Evaluation Worries	.58	.33	.22
Calmness	2p	1	Performance Worries	.40	.16	-.33
		2	Social Support Coping	.45	.21	-.23
Boredom	2p	1	External Perceived Control	.43	.19	.36
		2	Possibility of goal achievement	.54	.29	-.32
		3	Social Support Coping	.59	.35	-.28
		4	Trait Sport Anxiety	.64	.42	.26
Vigor	1r	1	Possibility of goal achievement	.47	.22	.36
		2	Active Coping	.55	.30	.23
		3	Uncertainty-Importance Worries	.57	.33	-.20
		4	Social Support Coping	.59	.35	.16
		5	Importance of goal achievement	.60	.37	.13
Tension	1r	1	Trait Sport Anxiety	.52	.27	.43
		2	Possibility of goal achievement	.57	.33	-.24
		3	External Control Worries	.59	.34	.14
Calmness	1r	1	Trait Sport Anxiety	.40	.16	-.32
		2	Possibility of goal achievement	.45	.20	.19
		3	Cognitive Appraisal Coping	.47	.23	.17
Boredom	1r	1	Possibility of goal achievement	.30	.09	-.26
		2	Uncertainty-Importance Worries	.37	.13	.22
		3	Importance of the competition	.39	.15	-.14
Vigor	2r	1	Possibility of goal achievement	.50	.25	.44
		2	Cognitive Appraisal Coping	.60	.36	.31
		3	Uncertainty-Importance Worries	.61	.38	-.14
Tension	2r	1	Trait Sport Anxiety	.46	.22	.27
		2	Possibility of goal achievement	.52	.27	-.22
		3	Uncertainty-Importance Worries	.55	.31	.18
		4	Importance of the competition	.57	.33	.15
		5	External Perceived Control	.59	.35	.14
		6	Cognitive Appraisal Coping	.60	.36	-.12

continued

TABLE 2. Continued

DEPENDENT VARIABLES	game*	step	PREDICTOR VARIABLES	R	R ²	Beta
Calmness	2r	1	Trait Sport Anxiety	.42	.18	-.33
		2	Cognitive Appraisal Coping	.48	.23	.20
		3	Possibility of goal achievement	.51	.26	.16
		4	External Perceived Control	.52	.27	-.12
Boredom	2r	1	Possibility of goal achievement	.37	.14	-.28
		2	Social Evaluation Worries	.43	.18	.16
		3	Cognitive Appraisal Coping	.46	.21	-.23
		4	Passive Coping	.47	.23	.16
		5	Importance of goal achievement	.49	.24	-.13

* 1p & 2p: 1st & 2nd completion before the competition

1r & 2r: 1st & 2nd completion retrospectively

In examining the effect of trait variables separately (before entering the situational characteristics variables), the amounts of explained variance for each state variable, in four completions, were: (a) cognitive A-state 40%, 44%, 40%, 32%, (b) somatic A-state 32%, 31%, 45%, 31%, (c) state-confidence 26%, 38%, 34%, 23%, (d) vigor 16%, 18%, 24%, 22%, (e) tension 31%, 33%, 29%, 29%, (f) calmness 29%, 21%, 19%, 24%, and (g) boredom 18%, 29%, 8%, 12%. The results indicated that the amount of explained variance was more increased, entering the situational variables, in the cases of state-confidence (17%-29%) and vigor (12%-29%). On the contrary, in the cases of somatic A-state (1%-5%), tension (0%-7%) and calmness (0%-4%), no or little change of explained variance was found.

DISCUSSION

The purpose of this study was to examine whether traits and situational characteristics constitute significant predictors of the factors of the cognitive-emotional precompetitive states. All the trait variables measured were entered at least once in the regression equations, contributed to the prediction of the state variables and confirming the basic hypothesis of this study. However, some of these were more consistent and significant predictors than the others. Specifically, trait sport anxiety was significant predictor in the majority of completions (3 measures at least) of somatic A-state, tension, and calmness. Trait sport anxiety represents the frequency of somatic symptoms of stress, thus it seems logical to predict the levels of state variables which consist the dimension of stress (Kakkos, 1994). On the other hand, trait sport confidence was a significant predictor of state-confidence (3 measures) and vigor (precompetitive measures) which consist the cognitive and emotional components of energy dimension (Kakkos, 1994).

Regarding the effects of specific cognitive schemata on state variables prediction, three categories of competitive worries (performance worries, social evaluation worries and worries due to the uncertainty and the importance of the situation) were consistently significant predictors of

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cognitive A-state (3 measures), state-confidence (3 measures), boredom (2 measures), tension (precompetitive measures), and vigor (retrospective measures). These results are in agreement with previous findings (e.g., Kakkos & Zervas, 1993) and support the suggestion to measure not only the somatic trait anxiety but also the cognitive aspects of trait anxiety (e.g., Smith, Smoll & Schutz, 1990). In addition, two categories of coping should be theorized as consistent and significant predictors of state variables. Specifically, cognitive appraisal coping significantly predicts the levels of calmness (3 measures), self-confidence, vigor, and tension (2 measures). Active coping consists a significant predictor of self-confidence and vigor (2 measures). However, passive coping significantly predicts the levels of boredom (2 measures), while social support coping predicts the vigor (2 measures, positive direction) and the boredom (2 measures, negative direction). It is suggested that cognitive appraisal coping and active coping predict the levels of energy dimension variables. On the other hand, passive coping predicts the variables which were characterized by negative emotion (anxiety, tension, boredom).

The possibility of goal achievement constitutes a consistent and significant predictor of cognitive A-state (4 measures), state-confidence (4 measures), vigor (4 measures), tension (3 measures), and boredom (4 measures). In addition, either the importance of competition or the importance of goal achievement significantly predicts the levels of cognitive A-state (3 measures), vigor (3 measures), and boredom (3 measures). These results confirm the hypothesis of this study and support the suggestions from other researchers (e.g., Lewthwaite 1990; Martens et al., 1990).

It is interesting to note that the two factors of Generalized Appraisals of Outcome Control and the relative situation characteristics variables (perceived control of the outcome) were not found to predict consistently the levels of state variables. These results may be attributed to methodological issues (e.g., type of questionnaires).

The high predictive value of trait variables used in relation to specific situational characteristics and the consistency of findings in prospective and retrospective measures support the significant role of specific cognitive schemata in cognitive-emotional state and allow the immediate and timely diagnosis of crucial and specific aspects of athletes' psychological profile. In practice, sport psychologists, creating multi-factorial trait and state psychological profiles are able to design the specific interventions and evaluate the effectiveness of the psychological preparation programs.

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PREDICTORS OF PSYCHOPHYSICAL FUNCTIONING OF POLISH OLYMPIC ATHLETES

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Introduction

In an attempt to establish the mental processes responsible for an efficient sport competition, the analysis of the modal structure of the competition was selected as the starting point for the following reasons:

- Competition is a classical example of a situation of achievement. Due to the creation of a steady divergence between the achievement and the objective yet to be achieved, that situation induces the achievement motivation, the steady improvement of performance. It is assumed that achievement motivation, as derived from the hope of success and fear of failure, determines the ability to maintain the direction and level of performance in a stressful situation;
- Situation of competition, due to its frequent experiencing, favors the formation of generalized beliefs concerning the causes of outcome and the locus of control. The internal feeling of control means the belief that the degree of achieving a given aim depends on subject's internal attributes, his abilities and effort. The external feeling of control refers to external factors resulting, e.g., from other people, circumstances, luck, etc. In this study, both general and sport-specific feelings of control were evaluated. The external and internal attributions of causes of the outcome affects the assessment of the competition situation experienced and of own competence and psychophysical capacity to cope with that situation;
- Locus of control is associated with the tendency to employ the defensive autohandicap strategy which is the result of creating an attributional uncertainty aimed at defending the positive self-assessment. By creating obstacles, that strategy creates an illusion of own abilities and of being able to control the outcomes. Those illusions justify possible failures and augment the self-esteem in case of success;
- Sport competition, due to its frequent experiencing, favors the formation of anticipatory control which consists of creating a likely model of events, actions, and own emotional states in a future contest situation. That control, by engaging anticipatory processes, is supposed to prevent undesirable start emotions by avoiding arousing stimuli, getting used to own emotional states in stressful situations, or by altering own image when confronted with such a situation.

Method

The factors mentioned above, resulting from the analysis of the competition situation, are regarded as hypothetic independent variables responsible for an efficient functioning in that situation. The following procedures were employed:

1. Own "TN Scale" for measuring the achievement motivation (experimental version);
2. - "Delta Scale" of Drwal for measuring the locus of control;
 - Own "I-E Scale" for measuring the locus of control in a sport situation;
3. Self-Description Questionnaire of B. Jones *et al.* for measuring the autohandicap strategy;
4. Own "AK Scale" for measuring the anticipatory control (experimental version);
5. "STAI" of C.D. Spielberger for measuring trait anxiety.

By employing an arbitrary ten point scale, the coach assessed the degree to which the athlete exploited his psychophysical capacity; that measure was used as the dependent variable. Coaches who worked with individual athletes assessed their olympic outcome by comparing them to the best pre-olympic ones.

Polish olympic competitors had been examined twice - three months before and just before the olympic start. Coaches' ratings were obtained after the competition. In the first term 40 subjects were examined (35 men and 5 women), in the second term - 46 subjects (39 men and 7 women).

Results and Conclusions

Because of the small number of women participating in the study, the relationships between the variables studied and the conclusions pertain only to men, although mean values for both sexes proved very close to each other.

Correlation coefficients computed for each stage of the study separately, presented in Table 1, are alike although they became more expressive in Stage 2, i.e. shortly before the starts. A strong relationship between values obtained by own "I-E Scale" and the "Delta Scale" indicates that by measuring the attribution of sport results conclusions can be drawn as to the general, non-specific attributions, and vice versa.

The most essential relationships discussed below indicate whether and how the selected cognitive-motivational factors can affect the functioning in a situation of competition.

The moderate but significant relationship between the achievement motivation and the internal attribution of the sport outcome ($r = -0.538$, $p < 0.001$) reflects the fact that the stronger is the

subject's feeling of internal control the more is he motivated by the hope of success. The feeling of authorship thus favors the motivation of success, reflected by the concentration on the task and by positive thinking "how to win". Two conclusions can be drawn from that relationship:

- Induction of motivation for achieving steadily higher standards of performance would not be possible without induction of an internal feeling of control;
- Perception of causes of the results achieved constitutes such a strong stimulus for action that the motivation of success without the feeling of individual authorship cannot exist. As expected, none of those variables correlated with the index of an efficient use of athlete's potential at the start.

Both motivation of success and the feeling of internal control are associated with anxiety reactions ($r=-0.494$, $p<0.001$, and 0.633 , $p<0.001$, respectively). The first relationship reflects the fact that the stronger the athlete is being motivated of success, the less is he prone to respond with anxiety to an external stimulus; the other one - that the stronger is the feeling of internal control, the the less is he prone to respond with anxiety to a possible stress. Conversely, the stronger is the feeling of the external control, of the influence of circumstances, the more will the athlete be prone to respond with anxiety to environmental stimuli, even if they are not really stressful. In general, those relations suggest that motivation of success and an internal feeling of control reduce the tendency to respond with anxiety, by concentrating on the task and the anticipated success, and by the belief that completing the task depends on subject's internal attributes.

Some relation between the locus of control and the tendency to use the defensive autohandicap strategy has been revealed ($r=0.481$, $p<0.01$). The internal feeling of control reduces that tendency, and the external one favors creating the illusion of being able to control the situation and to function in it [3,4]. An external attribution of causes thus facilitates creating an attributional uncertainty as to oneself as the author of action. According to the attributional theory, the search for uncertainty takes place beyond the central area of the structure of ego, which enables a positive self-assessment even in case of a failure. Those results substantiate the conclusion that both factors, as elements of cognitive processes, emerge from a homogenous pool of past experience associated with situations of successes and failures [2].

Another suggestion supported by the presented data is that employing a defensive strategy results from negative emotions, as illustrated by the relationship between the tendencies to respond with anxiety and to make use of a defensive autohandicap strategy ($r=0.503$, $p<0.001$). That view is supported by a supplementary relationship between the motivation of success and the tendency to make use of the autohandicap strategy ($r=-0.585$, $p<0.001$). This suggests that an athlete, mo-

tivated by the hope of success, is sufficiently convinced of his own psychophysical potential not to seek support in a strategy which offers only an illusion of such a potential.

Contrary to expectations, no conclusions can be drawn from the data presented here as to the constructive role of anticipatory processes, and the very weak relationships between the anticipatory control and the tendency to respond with anxiety ($r=0.282$) or to make use of the defensive autohandicap strategy ($r=0.307$, $p<0.01$) may even speak against such a conclusion. It rather suggests that creating a model of own states and probable events favors the defensive mechanisms - anticipatory processes concentrate on the threatening rather than favoring elements of functioning.

The relations discussed above, which reflect relationships existing between the factors of cognitive-motivational nature, form certain ministructure responsible for mental functioning in a situation of competition. They suggest that the stronger is the belief in being capable to control the external events and own achievements, i.e. the feeling of authorship, the stronger is the motivational expectation of a future success, the weaker is the tendency to respond with anxiety to environmental stimuli and the weaker the tendency to make use of the defensive strategy aimed at protecting oneself in case of a failure [5]. Conversely, the stronger is the belief in external locus of control, the stronger is the motivational fear of a failure, the stronger the tendency to respond with anxiety to environmental stimuli, the broader the range of anticipatory processes related to possible stressors, and the stronger the tendency to seek support in defensive mechanisms. All that discussion indicated only the logic of interrelationships and did not aim at establishing the directions of cause-effect relations.

The intriguing fact is that the relations discussed above, regarded as a ministructure of cognitive-motivational processes, are not reflected in the effectiveness of athletes' functioning. It can be, to a degree, explained by a remarkably homogenous level of their psychophysical pre-start fitness. Those who rank as Olympic athletes, being thus highly experienced, have developed their defensive mechanisms so strong that they can compensate for possible disadvantageous combinations of cognitive-motivational processes.

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Table 1

Coefficients of correlation between psychometric variables.

Term 1 (3months before Olympic Games) (35 men and 5 women)	
Correlated variables	r
General locus of control - Sport locus of control	0,591***
Trait anxiety - Sport locus of control	0,416**
Trait anxiety - Autohandicap strategy	0,513***
Trait anxiety - Anticipatory control	0,374**
Sport locus of control - Autohandicap strategy	0,286
Sport locus of control - Success motive	-0,502***
Autohandicap strategy - Anticipatory control	0,307**
Term 2 (Just before the Olympic Start)	
Correlated variables	r
Trait anxiety - Sport locus of control	0,633***
Trait anxiety - Autohandicap strategy	0,503***
Trait anxiety - Success motive	-0,494***
Trait anxiety - Anticipatory control	0,282
Trait anxiety - Age	0,458**
Sport locus of control - Autohandicap strategy	0,481***
Sport locus of control - Success motive	-0,538***
Autohandicap strategy - Success motive	-0,585***

*** - 0,001

** - 0.01

THE EFFECTS OF A MASTERY-ORIENTED TEACHING PROGRAM ON CHILDREN'S MOTOR AND PSYCHOLOGICAL DEVELOPMENT

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key words: motivational climate - intervention study - youth - martial arts

INTRODUCTION

Recent research in educational and developmental psychology suggests that the provision of a mastery-oriented (intrinsic) motivational climate will maximize enjoyment, perceived competence and motivation in children (Ames, 1992a,b,c). Ames developed an intervention plan based on six dimensions of the classroom learning environment: Task (design of learning activities), Authority (location of decision-making), Recognition (use of incentives in the classroom), Grouping (individual vs. cooperative work), Evaluation (use of feedback), and Time (pace of instruction), or indicated by its acronym: TARGET. To date, however, research investigating the motivational effects of a mastery-oriented approach has not been extended to a youth sport setting (Roberts, 1992; Roberts & Treasure, 1992).

The purpose of the present study was to compare the effectiveness of a traditional and mastery program in teaching children Chinese martial arts ("wushu"). The programs differed along the TARGET-dimensions. In short, the traditional method emphasizes the use of basic drills for practice, the authoritative role of the teacher, individual exercises, and a focus on performance outcome, while the mastery-oriented method employs more variety in exercises, shared decision-making between teacher and students, partner or small group exercises, and a focus on effort and improvement.

It was hypothesized that the mastery program in comparison to the traditional program would result in (a) greater enjoyment, (b) higher perceptions of physical competence, (c) higher levels of intrinsic motivation reported by young participants. As to date no information is available regarding the influence of a mastery-oriented teaching program on motor skill learning within the physical education setting, the effect of both programs on the participants' motor skill performance was also examined.

METHOD AND PROCEDURE

119 second to fifth grade children were randomly assigned to one of the two programs for three weeks during a university-sponsored summer sports program in Oregon, USA. Subjects' age ranged from 8 to 12 years ($M = 9.7$; $SD = 1.2$). Within each grade level, pupils were randomly assigned to the mastery ($n = 51$) and traditional ($n = 68$) wushu teaching program. At the beginning of the program, the children completed a (pre-intervention) questionnaire concerning their level of sport enjoyment, perceived sport competence, and intrinsic interest in sport. During the ensuing three weeks both groups received daily instruction in wushu (each session lasted about 40 minutes). After the last session, subjects completed a wushu-specific (post-intervention) questionnaire.

The level of enjoyment was measured through adaptations of two questions from the sport enjoyment study by Scanlan, Simons, Carpenter, Schmidt, and Keeler (1993). A sport-specific modification of the athletic competence subscale (6 items) of Harter's Self-Perception Profile for Children (1985) was used to measure the perceived physical competence of participants in this study. To measure the level of intrinsic motivation, sport-specific modifications of the first three subscales of the Motivational Orientation in Sport Scale were used (i.e., challenge, curiosity, and mastery) (Weiss, Bredemeier, & Shewchuk, 1985).

Eight subjects (four males and four females) from each group were interviewed shortly after their last session. The interviews were primarily aimed at obtaining additional information on the criteria which were used by the children in their self-judgment of perceived competence and intrinsic motivation.

The level of wushu skill performance was operationalized through the performance of the forward jump kick and was measured using a rating scale. The videotaped performances were afterwards rated by two independent wushu experts blind to the study.

To prevent instructor characteristics from becoming a confound, the investigator served as the instructor for both the mastery and the traditional group. Two manipulation checks were conducted to facilitate and assess the instructor's adherence to the teaching protocol: (a) an observation of teaching behavior of videotaped sessions by five independent observers, and (b) a daily self-report on his own teaching behavior.

RESULTS

Results from the manipulation checks suggested that the instructor adhered to the intended behavior within each teaching program. A oneway MANOVA with Group as the independent variable on the four pre-intervention dependent variables revealed a nonsignificant effect, Wilks's $\lambda = .94$, $F(5,113) = 1.48$, $p < .21$. These findings indicated that both groups could be considered as equal with regard to these measured variables prior to the intervention.

A oneway MANOVA with Group as the independent variable on the five post-intervention dependent variables showed a trend toward significance, Wilks's $\lambda = .91$, $F(5,113) = 2.14$, $p < .066$. Because the group main effect approached significance, univariate F -values and corresponding standardized discriminant function coefficients were examined. These results showed that the two groups only differed significantly on level of enjoyment.

Interrater reliability regarding the motor skill level evaluation was established through intraclass correlation (R). R was calculated at .83. This value indicates good reliability between the two judges. A oneway ANOVA with Group as the independent variable revealed that the children from the mastery group were rated

significantly higher than children from the traditional group, $F(1,111) = 11.35$, $p < .002$.

Analysis of the interviews indicated that while children from the mastery program were almost unanimous with regard to the high levels of perceived competence and intrinsic motivation, the children from the traditional group showed less pronounced unanimity on these aspects.

DISCUSSION AND CONCLUSIONS

The results of the present study revealed that the participants of the mastery program had enjoyed the sessions significantly more than the participants of the traditional method and thereby supported the first hypothesis. Some caution should be needed as enjoyment was significantly different on the univariate F only after proceeding on a marginally nonsignificant ($p < .066$) MANOVA. The results of the present study are consistent with the literature findings on the importance of a number of intrinsic sources of sport enjoyment (such as excitement, challenge, and testing of ability), as well as positive teacher reactions (such as appropriate feedback and recognition) which were part of the teaching behavior style of the mastery program.

A possible explanation for nonsignificant differences on perceived wushu competence between groups might be that the length of the experiment did not enable the participants to experience distinct feelings of wushu competence. Interview analysis revealed that although most of the interviewed children regarded at least half of the skills as "not easy", all but one of the children from the mastery group were convinced that they could learn new wushu skills pretty fast, whereas most children from the traditional group indicated that it took some time for them to learn. It can be expected that a longer experiment might have enabled the mastery group to have learned all the techniques (as they perceive it) and, as a result, feel more competent compared to the participants from the traditional group who needed more time.

The quantitative analysis did not support the hypothesis regarding the effect of the mastery program on children's level of intrinsic motivation. A number of explanations can be suggested for this variation from expected findings. Because subjects had already high levels of intrinsic motivation in sport in general (as revealed by pre-intervention data), a ceiling effect may have occurred. Especially as none of the children had any previous experience with wushu, most of them were probably interested in any new kind of activity.

To date, no information is available on the effects of a mastery motivational approach on motor skill performance. In the present study, children from the mastery group were rated higher in the level of wushu skill performance compared to the traditional group. Within the mastery group, children were introduced to this technique in a more informal way (e.g., through games and partner exercises), and the exercises in this group had a more immediate purpose as they were often linked to another goal (e.g., avoiding a fast turning rope, trying to touch a tennis ball, etc.). It is likely that these factors may have positively affected the way children in the mastery group experienced the rehearsal of the exercises, which consequently could have improved their skill level. Because of the lack of previous research findings, no generalizations to other (more complex) techniques can be made.

The topic of motivation in youth sport has attracted the attention of an increasing number of researchers during the last decade, resulting in a growing body of knowledge with regard to how and why young people become involved in sport and physical activity. Consequently, many researchers have formulated interesting recommendations concerning improvement of the actual practice of youth sports. However, to date, intervention studies aimed at investigating the positive affective and motivational effects of these recommendations have been largely neglected. This study revealed that provision of a mastery-oriented motivational climate can result in more enjoyable experiences for young athletes and can lead to higher levels of motor skill performance. However, more research is needed to determine whether or not these findings can be generalized.

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**PREDICTING AND UNDERSTANDING PHYSICAL EDUCATION
STUDENT'S CAREER ORIENTATIONS: APPLICATION OF PLANNED
BEHAVIOR, ROLE-IDENTITY AND ATTITUDE STRENGTH
THEORIES**

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Abstract

The aim of this study was to examine factors underlying physical education students' career orientations. The planned behavior model and the variables attitude strength and role-identity were used in a sample of 59 physical education students in order to examine their choice for teaching in individuals with disabilities in the future. A LISREL VI analysis showed that the students' career choice for teaching in individuals with disabilities were successfully predicted by attitudes, perceived behavior control, intention, attitude strength and role-identity variables. A model was examined in which role-identity and attitude strength toward teaching was affected by attitudes and attitude strength was affected by perceived behavioral control over the examined behavior. Role-identity had a direct effect in students' intention as well in their choice behavior. It seems that professionals' choice to work with individuals with disabilities are formed from their attitudes and intentions to work in individuals with disabilities. Finally, their choice is affected by how they perceive their role in the society, and how confident they feel about teaching in individuals with disabilities.

Key words : career orientation, attitudes, role identity, attitude strength

Introduction

Tripp and Sherrill (1991) stated that in the area of adapted physical education, research would benefit by utilising current attitude theories. One of these theories examining the attitude-behavior relationships, is the planned behavior (Ajzen, 1988; Ajzen & Madden, 1986). According to this model, the main antecedent of behavior is the individual's intention to perform the behavior. In turn, intention is determined by a combination of three factors. These factors are: "Attitude toward the behavior", "Subjective norms" and "Perceived behavioral control". Sherrill (1993) demonstrated the importance of the theory in examining teacher's personal and normative beliefs regarding adapting instruction for student with disabilities.

Charng, Piliavin, and Callero (1988) introduced the concept of role-identity as a mediator factor in the attitude-behavior relationship. It is based on Burke's (1980) identity theory in which an individual's self-concept is organized into a hierarchy of role identities that correspond to one's position in the social structure. Curry and Weiss (1989) stated that motivation for sport participation is likely to be influenced by the values of the sport organization as well as the sport and the gender identities of the participant. Another variable that has been showed to enhance the attitude-behavior relationship is attitude strength. The concept is based on Raden's (1985) notion that attitude measurement will be improved if several dimensions of the them are used. It was conceptualized as a variable that expresses how positive, strong, and important are the attitudes toward a given behavior.

Theodorakis (1994) showed that the variables of role-identity and attitude strength increased the predictive ability of the model of planned behavior to a greater extent than attitudes, subjective norms, and perceived behavioral control. Moreover, Theodorakis, Bagiatis, and Goudas (1995), examined attitudes and intentions of physical education students toward teaching individuals with disabilities. Structural equation analysis showed that the role identity and attitude strength variables mediated the effects of subjective norms and attitudes toward behavior on intention. Also, perceived behavior control was not a direct determinant of intention, but affected the attitude strength variable.

In order to expand these findings, the purpose of the present study was to examine whether the above model predict students' career orientation for teaching with individuals with disabilities.

Method

The sample consisted of 59 males and females university physical education students (18 to 20 years of age) who participated voluntarily in the study.

Choice behavior. The subjects responded to an inventory that consisted of two parts. In part I they read a scenario as provided below:

"Suppose that you have the choice to work either as a teacher in primary or secondary school, either as a coach, either as a teacher in a school for students with disabilities. Your salary and job condition would be the same for the three jobs. What would you choose to work with? Would you choose to work (1) as a teacher in school, (2) as a coach, (3) as a teacher in a school for students with disabilities?" Responses were given on 10 point "Yes sure, not at all" scales. The answers that subjects given to the last item was used as a behavior choice criterion.

In Part II of the inventory, intentions, attitudes, subjective norms, perceived behavior control, role identity and attitude strength variables were examined. Responses to all items were given on a 7-point scales.

Intention was estimated by the responses to three items (eg, I intend to teach individuals with disabilities during the next years). Cronbach's alpha was .96. Perceived behavioral control was estimated by four items (eg, How much control do you exert over teaching individuals with disabilities during the next years). Cronbach's alpha for this scale was .77. Attitude toward behavior was assessed by the question "I think that teaching individuals with disabilities during the next years is..." Responses were rated on five bipolar adjectives. Cronbach's alpha was .89. Subjective norms were assessed with statements: "If I teach individuals with disabilities during the next years, most people who I know would approve or disapprove." "Generally speaking, how much do you want to do what most people who are important to you think you should do?" Cronbach's alpha for this scale was .87.

The construction of role identity and attitude strength variables was based on items selected from relevant studies (Theodorakis, 1994, Theodorakis et al, 1995). Four items were used to measure the role-identity variable (eg, "To teach individuals with disabilities during the next years, is an important part of myself"; Responses were given on agree-disagree scale, and Cronbach's alpha was .96. Finally, nine items were used for the attitude strength variable. Items are as follows: "How certain/confident you are about teaching individuals with disabilities during the next years,". Its reliability coefficient was .94.

Results

Descriptive statistics and Pearson product-moment correlation coefficients are presented at Table 1. Significant correlations were

observed between choice behavior and the predictor variables all significant at .001 level, except that of subjective norms.

Table 1

Descriptive Statistics and correlation matrix for all the variables

	Mean	SD	min	max						
Variables					1	2	3	4	5	6
1.Intention	12.69	6.17	3	21						
2.Attitudes	26.69	5.91	8	35	.72**					
3.Subjective norms	27.03	21.35	6	98	.18	.24				
4.Perceived control	17.27	5.24	7	27	.76**	.68**	.27			
5.Role-identity	16.41	7.60	4	28	.93**	.78**	.26	.83**		
6.Attitude strength	38.83	13.66	14	63	.91**	.72**	.26	.84**	.90**	
7.Choice Behavior	4.58	2.22	1	7	.81**	.72**	.18	.67**	.82**	.76**

* $p < .01$, and ** $p < .001$

Structural equation modelling analysis using LISREL VI (Joreskog & Sorbom, 1984) was employed in order to examine the network of relationships between the observed variables. Figure 1 presents the structural coefficients for this model. The goodness of fit index was 0.930, the adjusted goodness of fit was 0.780, and the root mean was .022, which indicates an acceptable fit. Results showed that intention and role identity variables were direct determinants of choice behavior. Attitude strength and role-identity variables were included as mediator variables between attitudes toward the behavior and intention. Also perceived behavior control affected the attitude strength variable. Finally, subjective norms variable did not contribute to the fit of the model.

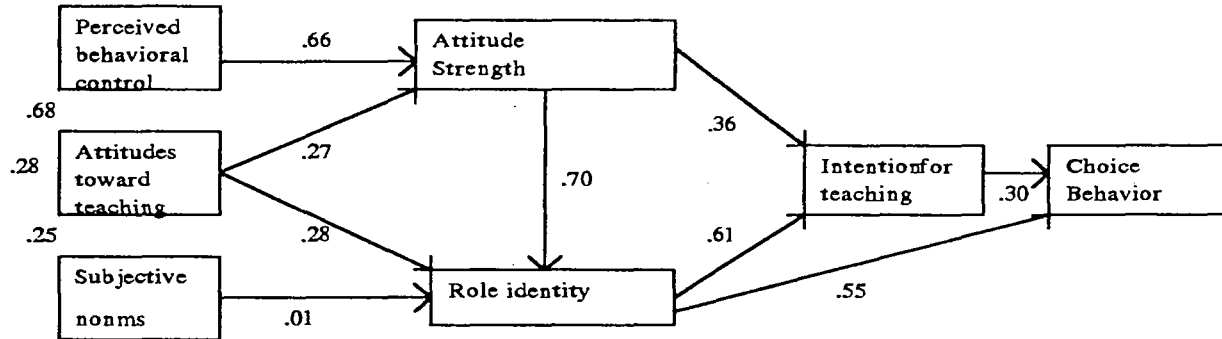


Figure 1: Path diagram of the structural model

Discussion

Intention for teaching in individuals with disabilities and role identity were the main determinants of students' career choice orientation. It seems that career choice for teaching in individuals with disabilities is perceived mainly by the students as a role-identity behavior. Attitude strength also was an important mediator factor between attitude and intention for teaching individuals with disabilities. Subjects more confident in their attitudes for teaching individuals with disabilities had stronger intentions to perform this behavior. Perceived behavioral control variable was significant determinant of attitude strength. This implies that when examining the effects of students' attitudes toward teaching in the future with individuals with disabilities, researchers should take into consideration the interaction of factors such as role-identity, attitude strength, and perceived behavioral control.

Results of the present study also showed that in order to change students' attitudes toward individuals with disabilities, he or she should try to change factors such as role-identity and attitude strength. Academic preparation and teaching experience are examples that suggested by Rizzo

and Vispoel (1991). Further insight into attitude-behavior relations would be of great importance in predicting career orientation of adapted physical education students.

In conclusion, students' career choice orientation for teaching individuals with disabilities in the future were predicted by their intention, their role-identity and their attitude strength. Their attitudes toward the examined behavior affected the role identity and attitude strength factors. Perceived behavioral control affected the attitude strength variable. The proposed model appears to be appropriate for examining relevant behaviors in physical education for special population settings. Individuals with positive attitudes, individuals who have stronger attitudes and intention for teaching, and perceive their role in the society as teachers in individuals with disabilities is more likely to work with them in the future.

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P.2.4. CAREER TRANSITION

BURNOUT IN SPORTSMEN: PROPENSITY TO EARLY GIVING-UP AND REASONS FOR IT

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1. INTRODUCCIÓN

The burnout syndrome has been basically studied in the labour context, in fact it was Freudenberg (1974) who first applied the term in social sciences, referring to the sensation of failure, exhaustion or sensation of going worn out due to excessive demands of energy, spiritual power or personal resources. In short, it is the inner perception an individual has about the requirements of his work what brings him to the burnout state. The author claimed that these labour requirements did cause the physical and emotional "emptying" which, in turn, led to an exhausted existence.

There have been a lot of studies to approach the syndrome in this context, trying to conceptualize it, and it seems that the most widely accepted definition of the syndrome is the one put forward by Maslach and Jackson (1981): "burnout is a tridimensional syndrome characterized by emotional exhaustion, depersonalization and reduced personal fulfilment". The authoresses view each one of these dimensions in the following way:

- Emotional exhaustion refers to the sensation of physical over extension and emotional weariness happening as a result of constant interactions among workers.
- Depersonalization would imply the development of negative attitudes and clinical responses to those persons for whom the workers render their services.
- Reduced personal fulfilment would be the loss of confidence in personal relations and a negative self-concept as a frequently unnoticed result of ungrateful situations.

In the sports environment, the study of burnout has been scarce (Garcés de los Fayos, Teruel y García Montalvo, 1993); nevertheless, the few existing studies have made it possible to characterize the syndrome sufficiently. Thus Fender (1989) defines burnout, after Maslach and Jackson (1981), as "a reaction to the stressors of sports competitions, and it would be characterized by feelings of emotional exhaustion, impersonal attitude towards the individuals of the sports environment, and decrease of the sports performance".

Among the variables that have been described to explain burnout in sportsmen, Henschen (1991) emphasizes the following ones: excessive length of the sports season, monotony in training, feelings of "being trapped", constant lack of positive reinforcement on the part of the coach, abuse on the part of those who hold power, or a series of non-rational sports rules. Loehr (1990) establishes three stages for the appearance of the syndrome:

1. The feeling of enthusiasm and energy starts decreasing. Initial illusions, accompanied by positive feelings about the sport, which were the spur that allowed the sportsman to develop, begin to disappear, and physical and mental energies decrease, causing a state of exhaustion which is not peculiar to habitual training.
2. Dropout and distress. Lacking the capacity to keep on, obstructions in training are caused, and these affect the performance of the sportsman, who opts for occasional dropouts. This is accompanied with a feeling of anguish for "not being able", and the illusions the sportsman cherished about the sport are almost inexistent.
3. Loss of confidence and self-respect, depression, alienation and dropout. After a long time in the previous stages, the features peculiar to burnout arise and the sportsman finally drops out.

Following this author, and in accordance with Smith (1986); Schmidt and Stein (1991); Loehr and Festa (1994), in this paper we try to check that in fact the most negative and frequent consequence is the premature dropout of sport. In this sense we tried to find out the index of propensity towards dropout shown by sportsmen, the suffering or not of the syndrome, as well as the reasons supporting the idea of dropping out.

2. METHOD AND PROCEDURE

SAMPLE

The sample was made up of 256 sportsmen chosen from several sports clubs practicing handball, basket-ball, athletics, tennis, football, volleyball, swimming and a residual category including those sportsmen who practice other sports. 73.83% were men (189) and 26.17% were women (67), and their ages ranged between 13 and 27,

prevailing the group ranging between 13 and 17 (60.55%), decreasing as the age increased, as it was to be expected.

INSTRUMENTS

For the measurement of burnout in sportsmen, we used the Maslach Burnout Inventory (MBI) of Maslach and Jackson (1981), because it is the most widely accepted instrument in scientific literature on the matter. However, we had to carry out a previous adaptation, since the inventory is devised for the labour context, so we adapted the terms of the items to the sports environment. Likewise, we carried out a factorial analysis of the MBI in our sample (Garcés de los Fayos, 1994), which gave rise to 6 main factors which accounted for 57.31% of the variance, similar to the three ones set forth by the authoresses of the MBI. It should be remembered that the three factors appearing in the original inventory were depersonalization, emotional exhaustion and reduced personal fulfilment. The six factors we obtained were:

- Frustration. Made up of items 1 and 13, they evaluate the feelings of frustration with regard to "sports work".
- Capacity of achievement and creation of a positive climate. Made up of items 7, 17, 18 and 19, they describe the sensation a sportsman has that he is managing to favour a positive atmosphere around him, as well as a high feeling of achievement.
- Emotional toughness. Made up of items 5, 10 and 11, they refer to the toughness the sportsman shows towards the persons of this sports environment.
- Fatigue in social relations. Made up of items 6, 15 and 16, they describe the emotional exhaustion that people surrounding the sportsman cause him.
- Physical weakening. Made up of items 2, 3 and 8, which refer to the excessive physical weakening caused by sport.
- Efficiency in interpersonal handling (Empathy). Made up of items 4, 7 and 21, they show the feeling a sportsman has of his capacity to handle interactions peculiar to the sports context.

The final result is an inventory of 18 items that, following the expositions of Maslach and Jackson (1981), measures burnout by means of high marks in factors 1, 3, 4 and 5, and low marks in factors 2 and 6.

In order to measure the propensity towards premature dropout in sport, we prepared a scale with sociodemographic variables in which, among other aspects, we inquired about the existence of dropout thoughts and the reasons stated to think in such a way.

All statistical calculations were carried out by means of computer product SYSTAT (Wilkinson, 1986).

3. RESULTS

After analyzing the results of the MBI adapted for sportsmen, we concluded that 57 individuals had the syndrome (22.27% of the total sample), which suggests a considerable frequency of the syndrome in the sports context.

We later analyzed the relationship between the presence of burnout and the propensity to dropout shown by sportsmen, by means of an X^2 analysis. The result was a statistical significance of 13.789, with 3 degrees of freedom and a probability level of < 0.01 . Table 1 shows the four groups of sportsmen (ranging from little or no burnout to clear presence of it, the latter represented by group 4) and the propensity they show towards dropout. It has been noticed that as the frequency of burnout rises the number of sportsmen with propensity to dropout increases. It seems obvious, therefore, that the relationship between suffering from burnout and tending towards dropout is confirmed by our study. It must be taken into account that while the 11 individuals in group 1 (little or no burnout) who thought of dropping out implies 16.41% of their group total, the 24 individuals in group 4 (clear presence of the syndrome) who thought of dropping out imply 42.10% of their group total. It is predictable, in the presence of a ratio of 2 to 1, that a sportsman with burnout is especially predisposed to drop out of the practice of sports in a premature way.

TABLE 1. PERCENT OF SPORTSMEN WITH BURNOUT AND PROPENSITY TO DROPOUT

GROUPS	DROPOUT (PERCENT)	NO DROPOUT (PERCENT)
1	11 (4.30)	56 (21.88)
2	18 (7.03)	49 (19.14)
3	27 (10.55)	38 (14.84)
4	24 (9.38)	33 (12.89)
TOTALS	80 (31.26)	176 (68.74)

In order to check the existing relationship between suffering from burnout and the reasons used to justify dropout, the statistical X^2 was applied again, and a statistical significance of 33.76 was obtained, with 18 degrees of freedom and a probability level of <0.05 . Table 2 shows, in a descriptive way, that 30 (37.5% of the total) out of 80 sportsmen that had ever thought of dropping out, pleaded lack of time and dedication to their studies. As regards sportsmen with burnout (G-4), the three reasons stated for dropping out of sport are: lack of time due to their studies-weariness-demotivation and health-injury reasons. These reasons gather 83.33% of the total number of sportsmen with burnout, and add two nuances to the perception they have of sports: it engenders health problems and feelings of weariness that lead to the lack of motivation, together with the lack of time to perform other activities (mainly studying), which can engender a high predisposition to burnout.

TABLE 2. GROUPS OF SPORTSMEN WITH REASONS FOR DROPPING OUT

REASONS	G-1	G-2	G-3	G-4	TOTALES
He/she has not been good enough or has not reached his/her limit	3	1	1	1	6
Lack of time for other activities	5	7	10	8	30
Weariness or lack of motivation	1	2	3	6	13
Toughness or exhaustion	0	2	1	2	5
Health or injury reasons	1	1	4	6	12
Other reasons	1	5	8	1	15
He/She has not thought of dropping out	56	49	38	33	176
TOTALS	67	67	65	57	256

Trying to further characterize the existing relationship between propensity to dropout and burnout, we established an analysis T of Student between propensity to dropout and the six factors of the adapted MBI (Table 3), and an analysis of variance between the reasons for dropping out and the factors of the MBI (Table 4).

TABLE 3. "T" OF STUDENT BETWEEN DROPOUT AND FACTORS OF THE MBI

FACTORES	"T"	NIVEL DE PROBABILIDAD
1	-4.397	0.001
2	-0.766	0.445
3	-2.019	0.045
4	-2.765	0.006
5	-4.041	0.001
6	-1.124	0.262

TABLE 4. REASONS FOR DROPPING OUT AND FACTORS OF THE MBI

FACTORES	RAZON F	NIVEL DE PROBABILIDAD
1	4.478	0.001
2	0.989	0.433
3	2.163	0.047
4	5.281	0.001
5	3.741	0.001
6	0.607	0.725

The results are significant in the sense that sportsmen who state to have thought of dropping out of sport show high marks in those factors related to emotional exhaustion and depersonalization (factors 1, 3, 4 and 5). That is to say, to a certain extent, those aspects that have more to do with the inner feelings of the sportsman are going to play an outstanding role in the possible appearance of propensity to sports dropout. This tendency is also noticed when analyzing the results that show the relationship between the factors of the inventory and the reasons for dropping out. Once more only significant differences appear in the factors related to emotional exhaustion and depersonalization. Concretely the following relationships appear: factor 5 with having reached their limit and lack of abilities; factor 4 with health-injury and other reasons; factor 3 with lack of powers and having reached their limit; and factor 1 with other reasons.

4. DISCUSSION AND CONCLUSIONS

It is confirmed the close relationship between suffering from burnout and having a clear propensity to dropout, which not only does confirm our working hypothesis but also turns the syndrome into a considerable sports problem. On the other hand, the prevailing reasons for tending towards dropout are the result of the person's inner perception, which is characterized by the significant data found between dropout and the reasons for dropping out and the MBI factors that are related to the dimensions emotional exhaustion and depersonalization.

Even so, and though data appear to be consistent, future research must be aimed at:

- Working to devise a burnout measuring instrument specific for sportsmen, and this perhaps involves the through study of the adaptation of the MBI to this context.
- Increasing studies analyzing the variables standing at the origin of the syndrome, so as to be able to conceptualize it better.
- Besides studying propensity to dropout, it would be interesting to examine the syndrome in depth when sportsmen definitely opt for this dropout.

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THE TYPES OF ELITE ATHLETES REACTIONS TO THE CHANGES OF THEIR POSITION IN THE ELITE TEAM

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KEY WORDS

Social position, elite athletes, psychic overloads, reaction to position destabilization.

INTRODUCTION

The participation in the elite team, the maintainance of the stable position there is very significant for every elite athlete. It is proved by many investigations. Manifestations of the stable position significance for elite athletes are various. One of them reveals in conflicts between veterans and talented young athletes included in the elite team (V.Navrotskaya, 1973). Elite athletes sensitivity to all circumstances of selection situations also demonstrates the importance of achieving and maintaining favourable position in the elite team (B.C.Ogilvie, 1987). Elite athletes qualify "politics in sport" as an important stressor that is caused by not very honest sport functioners activity (T.K.Scanlan, C.L.Stein, K.Ravizza, 1991). Sometimes athletes reject psychological help because of the apprehension that their draft-rating may become worse after the consultation with a sport psychologist (D.E.Linden, B.W.Brewer, J.L.Van Raate, 1991). Elite athletes consider contacts with journalists as one of significant stressors because the information they publish may influence their position in the elite team. (D.Telpel, 1993).

Coaches' point of view on the problem of athletes reaction to their social position changes is rather complicated. They realize athletes sensitivity to unfavourable changes of their position in the elite team. They take it into account while search for the ways to induce athletes to work hard during training sessions. Sometimes they solve the problem by making athletes to doubt of their position stability. But the increase of psychic loads as a consequence of athletes uncertainty in their position

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stability is often ignored by coaches. As elite sport is characterized by numerous stress factors additional source of psychic overloads may negatively influence elite athletes performance and their mental health.

Elite athletes reactions to changes in their position in elite team were studied during six years of investigation in the group of elite yachtsmen. Yacht elite team is a good model for study of athletes reaction to their position stability because of yacht crew formation peculiarities. Olympic class yacht crew consists of a helmsman and one or two crew members. The helmsman represents yacht crew in the measurement committee and the protest committee during competition. He makes tactical decisions that cannot be discussed or objected by crew members. Helmsmen social role is attractive, their position in the crew is more stable than that of crew members. So the analysis of helmsmen and crew members attitude to their position may help to find out sensitive indicators of yachtsmen reaction to their position destabilization or improvement.

The aim of investigation was to solve the following problems: 1) searching for most sensitive indicators that may characterise the yachtsmen attitude to their social position in the crew, 2) defining indicators that reflect different reaction types to social position changes, 3) clearing out the elite yachtsmen conception of means that allow to stabilize social position.

METHOD AND PROCEDURE

Investigation consisted of two parts. First part was devoted to the study of elite yachtsmen attitude to their position in the crew. It was done by comparison of helmsmen and crew members motivation structures. Since helmsmen and crew members positions in the elite team are different, motivation structures of that two groups of elite yachtsmen were compared. Yachtsmen motivation structure was studied by the Piloyan method (R.A. Piloyan, 1984). Indicators of motivation structure were registered during three competition seasons. Their registration was repeated four or five times in every competition season. 24 elite

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yachtsmen took part in the first part of investigation. 12 of them were helmsmen and 12 yachtsmen were crew members.

The second part of the investigation was devoted to the study of the elite yachtsmen reaction to changes of their position in the elite team. Cases of social position changes connected with athlete age, interpersonal conflicts, crew members dissatisfaction with each other's performance were analyzed. Motivation structure indicators were registered by the Piloyan method and by the Kalinin questionnaire (E.A. Kalinin, 1962). Stress sensitivity was registered by means of the Milman questionnaire (V.E. Milman, 1983). Cases of sufficient changes of elite yachtsmen social position connected with team formation for Olympic Games, World and European Championships had been studying during six years. Nonparametric criteria were used for the estimation of the statistic differences between indicators that were registered.

RESULTS

Motivation indexes comparison showed differences between helmsmen and crew members. Crew members have higher indicators of three motivation components: self-affirmation desire, material security desire, interest in social well-being (TABLE 1).

TABLE 1. Means of Motivation Indexes

Motivation components	Helmsmen	Crew members	Difference reliability
Self-affirmation desire.	5,9	7,5	$p < 0,05$
Material security desire.	3,8	6,2	$p < 0,05$
Interest in social well-being.	4,5	6,1	$p < 0,05$
Interest in special skills and knowledge acquisition.	21,9	20,0	-
Interest in getting information competitors.	22,3	20,6	-
Interest in absence of health disorders.	5,4	6,8	-
Interest in absence of psychic discomfort.	11,2	10,8	-

These differences between helmsmen and crew members motivation structures may be explained by differences in their social

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position stability. Crew members are usually less sure in their position unchangability. Consequently they have to be more interested in self-affirmation, material and social well-being.

This conclusion is supported by the study of crew members reaction to situations when their position was changed (including yachtsmen in new crew, yachtsmen uncertainty in social position stability connected with interpersonal conflicts). Cases of yachtsmen social position changes had been studying during six years. It is impossible to present all of them in this article. Only two cases were chosen for detailed description and analysis. These cases demonstrate typical reactions to position stability changes.

In the first case yachtsmen position destabilization was connected with changes in two elite yacht crews of the same olympic class. These changes were made by coaches just before World Championship. As a result position of one crew member changed to worse, position of the second crew member became less stable but promising. Motivation and stress sensitivity indicator of both crew members before and after their position changes are presented in table 2.

First three motivation indexes of the crew member 1 became higher after he was included in a new crew. The same tendency of that motivation indexes change may be observed in crew member 2 results. The first three motivation indexes increase is followed by the decrease of interest in special skills and knowledge acquisition and in getting information about competitors. Observed tendency of motivation indexes changes supports the conclusion that elite crew members consider stable position acquisition mainly as the social problem. It is also proved by the fact that the crew member 2 sensitivity to external significance stressor decreased when his position in the crew became better: athlete became sure of his prestige. Elite crew members think that favorable social position may be acquired by means of establishing good relations with persons that may influence their sport career. They consider improvement of the performance level as the less effective way of their position in the crew stabilization. So when coaches make changes in yacht crew for activization of yachtsmen work on their performance improvement their hopes are

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not often realized. Observation of crew members that consider their position in the crew as unfavourable shows that they often concentrate all their efforts on establishing useful social contacts and ignore current training problems.

TABLE 2. Means of Motivation and Stress Sensitivity Indexes Before and After Yachtsmen Inclusion in the New Yacht Crew

Indicators	Crew member 1 (position changed to worse)			Crew member 2 (position became promi- sing)		
	before	after	P	before	after	P
Self-affirmation desire	5,6	15,8	$p < 0,01$	2,8	6,4	$p < 0,05$
Material security desire	3,6	4,6	-	11,6	15,0	-
Interest in social well-being	3,3	6,4	$p < 0,01$	14,2	13,0	-
Interest in special skills and knowledge aquisition	29,3	18,6	-	18,6	14,0	-
Interest in getting information about competitors	15,6	5,8	$p < 0,05$	23,0	20,6	-
Sensitivity to competition stressors:						
internal uncertainty	4,7	4,2	-	3,4	3,6	-
external uncertainty	5,3	5,8	-	5,8	4,2	-
internal significance	1,3	2,0	-	2,4	1,5	$p < 0,05$
external significance	0,7	0,8	-	3,0	1,4	$p < 0,05$

There is another important aspect of the problem under discussion. Sufficient destabilization of yachtsmen position in the crew may provoke emotional tension increase and psychic overloads. The situations that support the idea were observed several times during six years of investigation. One of them is presented for the comparison with the case of the crew member position change that was discussed above.

Crew member A was a member of the elite yacht crew that consisted of three yachtsmen (helmsmen and two crew members). His position in the crew changed to worse after yacht crew failure in the pre-Olympic competition. The coach of the yachtsmen considered the crew member A uneffective performance as a cause

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of failure. Crew member A realized that another yachtsmen may be included in the crew instead of him in the Olympic season. As it is shown in table 3 uncertainty in position stability causes significant and stable increase of the crew member A interest in absence of psychic discomfort in the Olympic season. Psychic tension increase was followed by competition motivation decrease. Crew member A situational anxiety increased also in the Olympic season. Described reaction pattern manifested the athlete doubt of his capacity to improve position in the crew that was very significant for him.

The crew member B that performed in the same crew had stable position during both seasons. He was sure of his inclusion in the national Olympic team. His competitive motivation and situational anxiety level were not changed in the Olympic season. The interest in absence of psychic discomfort index became lower. Position stabilization in the Olympic season causes psychic tension decrease.

TABLE 3. Means of Motivation and Situational Anxiety Indexes in Pre-Olympic and Olympic Seasons.

Indicators	Crew member A		Crew member B	
	Pre-Olympic season	Olympic season	Pre-Olympic season	Olympic season
Interest in absence of psychic discomfort	7,5	21,0	12,3	8,5
Pre-Olympic competitive motivation	30,0	25,0	28,6	28,0
Situational anxiety during main trial	11,1	13,5	10,8	10,6

The crew member A motivation and anxiety indexes changes that were registered in the Olympic season support the characteristic of the elite athlete position instability as long acting mental state regulator that may modify the reaction to the situ-

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ational stressors and cause psychic overloads (G.B.Gorskaya, A.G.Barabanov,1993).

The programme of yachtsmen effective interaction protection was worked out on the basis of the investigation data on elite yachtsmen reactions to changes of social position in the elite team. The programme included the following components: 1) inducing helmsmen to facilitate crew members adaptation in the yacht crew, to encourage crew members efforts directed to maintaining favourable relations in the crew; 2) increasing of the crew members social role significance by means of attracting yachtsmen and coaches attention to their contribution to the yacht crew psychological climate formation; 3) involving all crew members into discussion on significant problems connected with the training sessions organization and competition participation; 4) teaching the crew members adequate attitude to helmsmen emotional reaction during competition races; 5) attracting coaches attention to taking into account psychological preconditions of yachtsmen effective interaction; 6) systematic psychological control allowing to register the indicators that manifest yachtsmen's estimation of their social position stability and thus to prevent interpersonal conflicts and psychic overloads; 7) yachtsmen communicative competence improvement. Practical realization of the described programme gave positive results.

CONCLUSION

The results of investigation allow to conclude that most sensitive indicators of yachtsmen reaction to social position changes are: self-affirmation desire, material security desire, interest to social well-being, desire to avoid psychic discomfort. Active and passive reaction to unfavourable social position changes were cleared out. Active reactions include first three indicators increase that is often followed by self-improvement motivation decrease. It means that elite yachtsmen consider their social position improvement as dependent more on social contacts than on their performance level. Passive reaction indicators are decrease of achievement and competitive motivation and the increase of the desire to avoid psychic discomfort.

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The reaction pattern expresses athlete doubt about capacity to make position in the crew more stable.

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TRANSITIONS: PROBLEMS IN THE CONVERGENCE OF ATHLETIC,
EDUCATIONAL AND VOCATIONAL CAREERS.

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INTRODUCTION

It is surprising that so little attention has been devoted to the process of disengaging in the sport of wrestling considering that wrestlers on national teams are relatively old and inevitably must experience a certain amount of conflict (Johns, 1991) between their sport involvement and their future non-sport careers. Typical of Canadian national team athletes, wrestlers believe their post-athletic careers will benefit from their high performance sport activities yet many expect to experience difficulties in making the transition (Canada, 1992). The Canadian men's wrestling team for example, is comprised of men between the ages of 23 years and 31 years. These athletes face mounting conflict as they encounter increasing demands from their involvement and commitment to sport, career, education, family and social life. All the team members are currently students or have received a university education. Some of the athletes have family commitments and most are concerned with commencing a career. The fact that all of these demands transform into strong influences on the athletic career of the individual is becoming a source of increasing concern to the athletes and to the sport organization.

In observing and working with elite athletes, I have detected an ambivalence in the way elite wrestlers prepare and view their role on the Canadian team. One coach remarked "They are good athletes but they don't think of themselves or prepare themselves as international athletes." He was referring to the approach which Canadian wrestlers take towards the preparation for elite competition. Generally, their experience provides a cushion against any lack of mental preparation and usually they are successful in national competitions and enjoy a share of international success but lack what Bandura identified as the "generative capabilities" (1986). These capabilities consist of a wide range of behaviors which are shaped to provide the athlete with an arsenal of procedures which are believed to lead to excellence. In working with elite athletes it is not difficult to confront the disparity between the amount and quality of physical training in which athletes engage and the lack

of attention given to developing these generative capabilities. Consequently, while wrestlers are physically prepared for competition, their mental preparation suffers from a lack of clarity and frequent interference from the concerns of their personal lives outside sport.

What follows is more of a commentary than a research report in the conventional sense. This paper highlights and reacts to the transitional demands faced by athletes in the sport of wrestling and suggests ways in which sport organizations may assist athletes to address these issues. To accomplish this, I draw from my role as sport counsellor for the Canadian national wrestling team in which I am privy to the personal lives and disclosures which athletes share with me. By engaging a heuristic paradigm, I am in a position to observe and collect "the whole, subjective experience of individuals by examining the way people perceive, create, and interpret their world" (Cote, Salmela, Baria and Russell, 1993). The conclusions of my observations, although ideographic, are intended to contribute to a better understanding of the behaviors of athletes in sport settings as called for by several writers (Dewar & Horn, 1992; Martens, 1987)

REVIEW OF TRANSITIONS

Over a decade ago, considerable interest in the process of retirement and career adjustment was demonstrated in the sport sociology literature (Allison & Meyer, 1988; Ball 1976; Hearle, 1975; Lerch, 1984; Rosenberg, 1984; Greendorfer & Kleiber, 1982; Swain, 1991). These studies tended to dwell on the process of retirement as generally a negative experience for the athlete, although Allison and Meyer (1988) recognized that their subjects expressed relief as they withdrew from the arduous experiences of a professional tennis circuit. Rosenberg (1984) and Lerch (1984) suggested that the process was analogous to that experienced by Kubler Ross's (1969) dying patients. Swain's (1991) view tends to support the Schlossberg (1994) model that transitions tend to be diverse. Alternatively, Coakley (1983), suggested that retirement could be viewed and experienced as a process of resocialization into new and meaningful life pursuits.

Running parallel to ideas expressed in the sociological literature, has been the flow of articles and research from psychology (Olgivie & Howe, 1986; Schlossberg, 1984; Orlick & Werthner, 1992, Werthner & Orlick, 1986, Sinclair & Orlick 1993) which have expressed the personal perceptions of individual athletes in terms of a wide range of experiences. While it appears that there is little concern on exactly how to describe the transition of the athlete from sport to whatever their next life experience is going to be, there is justified concern that the transitional period is not always a positive one. If the

literature is to be effectively applied, sport psychologists now have to focus on the context of the athlete's retirement and the networks which are required to assist athletes through what can obviously be a time of crisis. In recognition of this, Sinclair and Orlick (1993), have recently identified various support networks as instrumental in assisting athletes through disengagement to productive lives in newly discovered endeavors.

THE CASE OF OLYMPIC WRESTLING

The issues which surround disengagement and the transition to other stages of life are particularly poignant in the sport of Olympic Wrestling. This sport is currently witnessing a trend which indicates that although the elite wrestlers are physically equal to one another, older wrestlers with greater experience are likely to become the champions at the World and Olympic level. The average age of World Champions in 1991 was 29 years with ranges between 20 and 31, and Olympic freestyle champions in 1992 were 26.8 years with the youngest age 21 and the oldest 32. This trend indicates that if athletes in this sport are willing to persevere through a decade of training and competing at the highest level, they are more likely to win national and international titles because of the rich and relevant sport specific experiences they bring with them.

The available statistics of world and Olympic championships provide compelling evidence that wrestlers between the age of twenty five and thirty are more likely to win medals than any other age group. However, elite wrestlers from Western Europe and North America who stay with the programme experience cultural conflict as they place their futures at risk by failing to assume the roles that they are culturally and naturally expected to assume as male members of these societies (Johns, 1991). While there is an acceptance that male athletes should have time to pursue excellence in a particular sport (Johns, 1994), there is also an expectation that men will eventually become independent and successful in a career. These expectations accentuate a sense of personal conflict which may accelerate the decision to retire from the sport. Conversely, the sport ethic promotes, as normal, the temporary suspension of such activities as : completing an education, job training, beginning a career and enjoying conventional relationships, which other Canadian males pursue as the normal course of action. But the more these necessary cultural formalities are delayed from occurring, the greater the stress on the male to begin them. This source of conflict becomes particularly significant at the precise moment in the wrestler's career that his potential to reach the world and Olympic championship level is at its greatest.

GOVERNMENT INTERVENTION

What this paper is attempting to accomplish is more to do with the on going transitions which wrestlers at this age encounter rather than with the termination of their career. Indeed, it would be to the sport's advantage to view wrestlers not as individuals who are about to quit because their normal life expectations are not being fulfilled, but as persons who will continue to wrestle because they are continuing to improve their performance in an atmosphere which nurtures personal growth.

It is the position of this paper to encourage amateur sport organizations to accept some responsibility for the facilitation of ways in which athletes can maintain their sporting career while engaging in other meaningful life endeavors. The convergence of rising expectations on the part of significant individuals who surround athletes such as coaches, family and employers, unfortunately remains an issue which has been marginalized by the sport organization. Efforts to reduce the conflict and to enrich the experience of athletes would seem to be a much more commendable strategy than simply ignoring the opportunity to provide the appropriate support which would reduce conflict during the competitive years. In no other sport has the factor of experience been so clearly demonstrated as an asset in the success of athletic performance as it has been in wrestling. It is therefore essential that sport organizations, who exercise a great deal of control over the amateur athlete, assume the responsibility of support during the years which undoubtedly present the greatest potential for conflict to occur.

Sinclair and Orlick (1993) have described the support which has already been implemented in the Canadian system. Certainly, by the indicators reported by these authors, all athletes do not yet take full advantage of the service available. Only 27% of the national team members used these services when they retired citing most frequently that they had already formulated and implemented a plan and did not require the services of the Olympic Athletic Career Center (1993). These figures may suggest that even when plans are made to assist athletes, they do not take advantage of them and independently cope with retirement, thus demonstrating that such help is unnecessary. If this was so, one would think that the problems now experienced by such sports as wrestling would be resolved. However, this is not the case because of the myriad of variables which mediate personal experiences (Swain, 1991).

While the services which are presently offered focus on retirement, parallel services are required to address what Swain commonly identified as a "chronic hassle" (1991, p. 157), during their their sport career (Sinclair and Orlick, 1993, p.145). A Sport Marketing

Council was set up by the federal government to provide leadership (Hall, Slack, Smith, & Whitson, 1992) but the response from amateur sport groups to seek help has been sporadic and consequently the potential support from corporations has not been utilized to its fullest. Nevertheless, what has been demonstrated as a prototype has been the establishment of a strong community relationship between certain corporations and individual athletes living in that community.

MODEL INTERVENTIONS

Often times, corporate leaders are themselves retired athletes and can identify with the difficulties which presently exist in maintaining the precarious positions in the competitive world of sport. For example, in a few Canadian cities, a small number of elite athletes have become involved in a corporate designed sponsorship programme. Ascertaining that athletes cannot maintain permanent work positions which normal employees would be expected to hold, corporate employers have offered athlete-workers flexible working hours taking into consideration the need to attend training camps, tours and competition. According to John Loewen, President and Chief executive officer of Comcheq, most employers have provided a regular wage for services rendered regardless of their attendance and some firms have purchased vehicles and equipment in return for advertising and endorsements by the athlete (personal interview, February 1995). These arrangements have successfully provided athletes with a sense of control and accomplishment and have substantially lengthened their careers.

It must be recognized that such measures have been taken to shore up a weakening system of amateur sport and while they are commendable and sensitive to the needs of struggling athletes, they are less than ideal in addressing the issue of transitions in the lives of athletes. Sport sociologists (Cantelon, 1981; Kidd, 1998) have criticized the introduction of commercialization into amateur sport for more idealistic reasons but there are those who view the corporate offer as patronizing because athletes are considered much more deserving than they would normally have been.

FUTURE DIRECTIONS

With just a little more understanding, a lasting and powerful shift in the relationship which corporations can develop with elite, well educated and highly motivated athletes, can be

achieved. This is particularly true of the members of the Canadian national wrestling programme who, as a group, represent some of the oldest and most mature young adults in Canadian sport. Instead of providing a temporary position which terminates when the athlete disengages from competition, it would be much more advantageous if athletes could negotiate employment which would eventually lead to permanent employment at the conclusion of their athletic career. This arrangement would have distinct advantages for the corporation which would derive certain benefits from the sponsorship, the athlete's contribution to the work place, and the reduction of staffing problems. Athletes would also enjoy the benefits of stability knowing that their post-athletic career is much more certain and more clearly defined and that their present athletic career is not threatened. Such a situation would provide a positive climate in which athletes would be able to work on performance enhancement. Of greater consequence would be the transfer value of specific skills required in high performance sport. It should come as no surprise to discover that the skills required in sport were merely extrapolated from the distillation of the research conducted in education, industry and the corporate world by a number of industrial and organizational psychologists, (Burton, 1992; Locke & Latham, 1985, Elliott & Dweck, 1988; Nichols, 1984). Skills such as time management, performance oriented goal setting, pre-event preparation, tenacity, and the development of self efficacy (Bandura, 1977) are all skills that are not only commonly employed in sport but are invaluable attributes in the work place.

CONCLUSION

While the career transition and final disengagement of Canadian wrestlers from their sport is normal, the case of wrestling is not typical because of the considerable impact which experience is perceived to play in the success of wrestlers. Naturally, members of the sports organization including coaches, team technical directors and executives, would like to be able to boast of a successful wrestling programme measured in terms of finalists and medallists in world and Olympic championships. To accomplish this goal, athletes must be encouraged to continue their career in spite of the fact that the years spent competing place athletes at risk in terms of realizing their post-athletic hopes and dreams. The inconsistency between the needs of the athletes and expectations of the organization is a source of conflict in the sport. What this paper has attempted to describe is the problems associated with transitions of athletes and what might be done to relieve such pressures. The suggestion was that while corporate sponsors have voluntarily offered temporary support, long term commitments on the part of athletes and potential employers would produce a much more

stable solution. The establishment of a such support programme would not only contribute to the extension and improvement of wrestler's performance, it would also provide a source of security for mature young adults who face uncertain futures without education or an occupation.

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SPORTS CAREER SATISFACTION OF RUSSIAN ATHLETES

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KEY WORDS

Sports Career, The Synthetic Model of Sports Career, Satisfaction with Sports Career.

INTRODUCTION

This investigation is based on the Synthetic Model of Sports Career (Stambulova, 1994). This model is a complex of four objective characteristics of Sports Career (SC):

- 1) length and age borders;
- 2) generalization-concentration of SC (the number of sports events that the athlete undertakes throughout SC);
- 3) level of achievements with two aspects: (a) sport results; (b) achievements in development, SC "acquisitions";
- 4) "cost" of SC ("expenditures" of time, health, money as well as "self-restrictions" in other spheres of life) and two subjective ones: athletes' satisfaction with SC and level of success (as social mark of SC).

METHOD & SUBJECTS

Using this theoretical model a questionnaire form "SC-Synthetic Model" was created. It consists of four parts: (a) SC length and generalization; (b) level of achievements; (c) "cost" of SC; (d) satisfaction with SC. In the 4-th part athletes were offered to estimate their satisfaction with SC, using a 10-point scale, and then to explain their opinions. These marks were compared with another items of the questionnaire form.

206 Russian athletes of national and international level, representing different sports events, took part in this research. Among them were 85 males and 121 females from 19 to 29 years of age.

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RESULTS

Taking into account athletes' marks of SC satisfaction, three groups of subjects were distinguished: 1) "highly satisfied" (7-10 points and positive substantiation)- 34% of a sample; 2) "dissatisfied" (0-3 points) -17%; 3) "low satisfied" (4-6 points)- 49%. Last group substantiations were more close to group two than to the first one. So group of "low satisfied" athletes was made a part of "dissatisfied" group.

Different athletes have different determinants of SC satisfaction-dissatisfaction. Empirically 6 types of "highly satisfied" and 9 types of "dissatisfied" athletes were distinguished and described.

There are the following **types of "highly satisfied" athletes.**

Type 1. - Athletes with really high sport results (champions and prize-winners of European and National Championships, Universiades), who evaluate the "cost" of their SC as "optimal". All of them have had the high level of sport goals and experienced great social recognition and support as inside sport (coach, sport specialists), as outside (family, friends). Here is a typical substantiation of SC satisfaction in this group:

A. G. (female (F.); track and field athletics): "I have had a big goal in sport. There were years of hard training work. I sacrificed many things in my life, but experienced a great success in the end, which covered my efforts".

Type 2. - Athletes, whose satisfaction is based not on competition results, but on their achievements in personal development, "acquisitions" of SC in general. As usual, their sport successes are appreciated by family members and friends. Typical substantiations:

K. O. (male (M.); wrestling): "Due to sport I acquire magnificent physical and spiritual strength. I am really happy and my family and friends are happy with me."

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K.V. (M; track and field athletics): "I didn't plan to achieve the highest tops in sport. In fact, my goal was to be harmoniously developed person. I have acquired masculine image and now I feel myself confident. Here is a main result".

D.E. (F.; skiing): "Sport taught me to live, i.e. to plan my deals and time, to make decisions, to overcome difficulties. It helped me not to react tragically on failures. At last, sport gave me profession (I am going to be a coach). What more?"

Type 3. - Athletes, who "realized their possibilities, resources, potentials" in sport. They have had not very high level of goals, but they accomplished those aims. In substantiations of SC satisfaction they stress "the balance of "expenditures" and "acquisitions" of SC". Typical example:

K.N. (F.; acrobatics): "I achieved my own top in sport, which corresponds to my abilities and efforts".

Type 4. - Athletes, who orientate in their satisfaction on positive emotions and enjoyment, connected with physical exercises, games, competitions, communication with teammates which they experienced during SC. Two examples:

L.N. (F.; basketball): "I took a magnificent delight in training and competition games as well as in communication with teammates".

P.N. (M; ski-jump): "Sport gave me wonderful sences, emotions and feelings. When you are on the good form, your body is docile and your soul is singing. I never experienced such sences in other spheres of my life".

Type 5. - Athletes with low level of goals, for example:

Y.A. (M; football): "I am satisfied because I didn't seek much in sport".

Type 6. - Athletes with low "cost" of SC upon the

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condition that their sport results are equal or higher than their goals. They consider that they achieve high results due to talent and luck. One of substantiations:

Z.A. (M.; boxing): "I achieved more, than I expected and, sincerely speaking, I didn't do very well in training. Coach said: "Talent...".

In general, the majority of "highly satisfied" athletes belong to the types 1-3. Another types are represented by the minority of subjects.

Nine **types of "dissatisfied" athletes** are the following:

Type 1. - Athletes who "didn't realize their potentials and possibilities" in sport. Their sport results were lower than rather high level of goals. Absence of "the balance between potentials and real outcomes" is the main point, which they stress in their substantiations of SC dissatisfaction.

P.N. (F.; fencing): "I had potentials, but didn't realize them".

R.O (F.; gymnastics): "I felt reserves, but my "nerves" couldn't sustain physical and psychic loads".

S.D. (M.; rowing): "I don't complain, but when I remember my SC I feel annoyance because I have realized may be a half of my potentials".

Type 2.- Athletes with "unoptimally high" cost" of SC. Mainly they experienced hard traumas or acquired chronical disorders during SC. In this group there are athletes with as high as low level of sport achievements. Their dissatisfaction is often reinforced by family and friends disappointment. For example:

X.O. (F.; track and field athletics): "My sport results were not bad. But I had a few serious traumas, including a fracture of coccyx. Outcome of my SC: I am 20 years old, but I have already lost my health."

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S.D. (M.; tennis): " I didn't achieve high results in sport, but spent there too much time, energy and efforts. More over, I hurt my health. When I was 17, I experienced overtraining and then had to drop out of sport".

Besides losing health, top athletes notice another reason, connected with the SC "cost". Sometimes only after SC termination they begin to aware how "they were railed off another world". Those, who experience difficulties in post-sport adaptation tend to revalue their SC. In this process "loses" often outweigh "acquisitions", including even top sport titles. From this point of view athletes of average level have some advantages compared with top athletes.

Type 3. - Athletes, whose dissatisfaction based on awareness of their mistakes and "unprofessional relation" to training and sport life in general. Some examples are:

S.V. (M.; swimming): " I always set goal only for the nearest competition and usually accomplished it. But when I finished my SC, I realize that I could achieve more in sport. Definitely, I was wrong with goal setting."

P.V. (F.; track and field athletics): " In training I was "a person of moods". Before competition I usually ran myself down. I had a strange "theory": "If I feel joy before competition, I will cry after it." So often I cried as before as after... Now I regret about such "unprofessionalizm".

Type 4. - "Unlucky" athletes. They tend to excuse their low sport achievements by unfavorable conditions and events (resignation of a coach, changing of living place, disintegration of sport team or club, "stupid injuries" and so forth).

Type 5. - "Unrecognized" athletes, who consider that other people (or may be some important persons)

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underestimate them. During SC athletes tried to prove somebodies that they were better or more talented compared with others, but didn't cope with this personal task. See two different cases:

K. T. (F.; swimming): "It is impossible to train in a proper way, if you don't belief in your coach. Here is a main personal experience of my SC. Every day I try to show him that I deserve his attention and trust, but in fact he never apprised me. I can not forget this disillusion".

K. V. (M.; volleyball): "During first half of my SC I fought with my parents, who were against my passion to volleyball. Long time I trained secretly. After finishing school I left home and became a student of the Academy of Physical Education in St.-Petersburg. Now I continue to play volleyball, but rather for myself, because the best time for progress has already gone".

Type 6. - Athletes with too generalized SC, who tested many sport events, but didn't "find theirselves" at all.

Type 7. - Athletes with concentrated SC (= one sport event) upon the condition of low level of sport results. They are sorry about being too inert for searching more appropriate sport event.

Type 8. - Athletes with low "cost" of SC in the condition of low sport results. They didn't do their best in sport and now feel pity.

Type 9. - Athletes, who consider their SC termination as premature.

In general among "dissatisfied" athletes the representatives of types 1-3 prevail over others.

CONCLUSIONS

1) The main factor of SC satisfaction is coordination between level of goals and level of achievements. If level of achievements is equal or higher than the level of goals, athletes rather would be satisfied.

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2) The next factor is the "cost" of SC. Unoptimally high "cost" (traumas, disorders, great self-restrictions etc.) always decreases satisfaction. Low "cost" in combination with high sport results increases satisfaction, but low "cost" combined with low results usually decreases it.

3) Social recognition plays essential role for certain group of athletes. But for the majority it is an additional factor, which intensifies satisfaction or dissatisfaction, based on another foundations.

4) Too generalized as well as too concentrated SC can become additional reasons of dissatisfaction but only upon the condition of low level of sport results.

5) There is no essential relationship between length of SC and satisfaction with it. But premature exit from SC can become a reason of dissatisfaction.

6) Among all types of "dissatisfied" and "highly satisfied" athletes there were as men as women.

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CAREER TRANSITION RESEARCH AT VICTORIA UNIVERSITY
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INTRODUCTION

The glamorous lives of elite professional and Olympic athletes and the high status afforded to these individuals by the public and the media distracted attention from the problems those athletes experience adjusting to life after sport. Further, it was not realised by coaches, sports administrators or most sport psychologists that the singleminded dedication to their sport for which our leading athletes are praised often means that many are one-dimensional, having learned few practical or social skills relevant to life outside their sport. The preparation of elite performers for retirement (career education) and the support many of them require through the transition out of elite sport (career transitions) are needs which sport psychologists have recognised only in the last ten years (e.g., Blann & Zaichkowsky, 1986, 1987, 1989; Petitpas, Danish, McKelvain & Murphy, 1992, cited in Gordon, 1995; Ogilvie & Taylor, 1993).

While attention has been drawn to the need for sport psychologists to develop programs to provide career education and career transitions support, there remains little research to guide this career-related work. For example, career education programs are still very limited in number and those which do exist have tended to focus on younger elite athletes. Thus, sufficient time has not elapsed for enough athletes who have come through career education programs to reach the retirement transition, so that research can be conducted to compare their experience with that of athletes who have not enjoyed formal career education. While it is not possible to determine how current career education will affect future transitions, it has also been argued that the present performance of many athletes is disrupted because they are aware that they have made no preparations for the inevitable end of their sport careers. Research on the immediate impact of career education on psychological factors which are known to influence performance should now be conducted. In addition, the personal growth of athletes supported in this way should be monitored.

With reference to the retirement process in elite sport, the small amount of research which has been carried out does not describe the conditions in which career transitions

out of sport will be more traumatic. Research is required which examines the experiences of retiring and recently retired elite athletes in depth, to depict the psychological, social and environmental factors which influence the nature of that experience. It is only when sport psychologists providing support to elite retirees have this information that they will be in a position to provide the most informed and effective support.

It is based on these premises that the Victoria University sport psychology group has developed its research program in career education and career transitions and continues to develop research in collaboration with colleagues in Australia and the United States of America. Progress on two major projects, one on career education and one on career transitions, is described in this paper. The paper also indicates some of the present planning of the group and presents a short description of a catastrophe model of career transitions.

CAREER EDUCATION AT THE VICTORIAN INSTITUTE OF SPORT

The Victorian Institute of Sport (VIS) in a farsighted move, employed a Careers Coordinator from its inception in 1990. Deidre Anderson developed the Athlete Career Education (ACE) program. All VIS scholarship holders enrol in this program which offers 27 workshops on various aspects of career education and personal and social development. The workshops cover four areas: Presentation (7 workshops) Career Planning (4) Personal Development (9) and Education (7). Each athlete also attends monthly counselling sessions to assess needs and priorities, to set goals and to review progress. Additionally, athletes can initiate counselling sessions at any time. The ACE program has been well received at the VIS, where more than 450 scholarship athletes have been involved. Recently, the Australian Institute of Sport decided to adopt the program for national application and the Department of Employment, Education and Training is negotiating recognition of the program by the award of a formal certificate in career education.

In 1991, Deidre enrolled in a research program at Victoria University to examine more formally the effectiveness of the ACE program. We decided to study the influence of the program on performance, psychological factors which affect performance and psychological well-being. The number of scholarship holders in each sport at the VIS is small. Also, the application of the ACE program in a range of sports was, of interest. Thus, it was decided, to invite two new scholarship holders at the start of 1992 (one male, one female) from 15 well established VIS sports at the start of 1992 to participate in the year long study. Having been told the nature and requirements of the study, 30 athletes agreed to participate.

Measurement and comparison of performance across a diverse range of sports was problematic. It was decided to use athlete and coach ratings of performance in training and competition to obtain a reflection of performance which was comparable between sports. While we acknowledged the subjective nature of these ratings, the comparison of coach ratings with those of the athlete permitted a check on veracity. Using rating scales permitted the assessment of performance in training, along with performance in competition. Performance was rated on eleven point Likert scales.

Research on psychological characteristics and sports performance, reviewed by Vealey (1992), Cox (1994) and Morris (1995) has identified mood states as one of the few reliable psychometric factors which relates to performance. Athletes completed the Profile of Mood States (POMS) (McNair, Lorr and Droppleman, 1971) on a weekly basis. The POMS was administered with standard instructions referring to evaluation of its 65 items, reflecting six mood states, on the basis of mood over the previous week.

To monitor long-term psychological development and well-being two instruments were used. The Self-Description Questionnaire (SDQ) is a multidimensional measure of self-concept, which was developed by Marsh (1990). Its hierarchical conception of self-concept reflects a number of domains of self-concept, such as maths, religious and physical activity, which are grouped into broader areas, such as academic self-concept and general self-concept. These then combine to give an overall self-concept score. The version developed for older adolescents and adults, the SDQ III, was used in this study to monitor changes in self-concept during the year.

There are many conceptions of psychological well-being, including measures of life satisfaction, quality of life, morale, affect, and happiness. Herbert and Milsum (1990, cited in Morris & Anderson, 1994) reviewed this field and asked experts to classify items from the most widely used scales. Morris, Fortunato and Spittle (1995) developed a simple measure of psychological well-being for a study of recreation and well-being in older adults, by selecting four clear and consistently classified items on each of three indices of well-being, namely life satisfaction, morale and positive affect. Responses were made on five point Likert rating scales, ranging from 1 = strongly agree to 5 = strongly disagree. A combination of internal consistency measures and confirmatory factor analysis established the reliability and the factor structure of these subscales. Athletes completed the SDQ III and the twelve item well-being scale on a monthly basis, as it was expected that any changes in these relatively stable characteristics would only be reflected in the longer term.

The study adopted a single-case design for the examination of athlete performance ratings and mood states which were tested weekly. A multiple-baseline design was planned. There are two main advantages of multiple-baseline designs. First, they ensure no systematic extraneous influence affects all participants when the treatment is introduced. Second, they permit each participant to remain in baseline conditions until stability is attained in the measures. Practical and ethical considerations meant that subjects had to start the program after four weeks of testing. Because the treatment was being presented by the researcher it was felt that Deidre could not score and plot baseline measures, as this could have affected her reaction to participants during the treatment phase. Thus, a stable baseline was not necessarily established. Also, a common extraneous variable was not likely to influence all participants when they were introduced to the treatment, because, coming from different sports, their physical conditioning, practice and competition experiences were independent across sports; only the ACE program was common to them all. The single-case design was, thus, considered to be an acceptable method to observe performance ratings and mood states. Coaches' performance ratings were employed only to permit comparison with athletes' ratings and were not analysed independently. The measures of self-concept and psychological well-being were administered monthly. Subjects started the program after four weeks, and only one test of these variables occurred in the baseline period, so a

single-case design was not suitable here. The nature of these variables suggested that a case study approach was appropriate to examine them.

During the year, a number of athletes dropped out of the study. Generally, this occurred because they left the ACE program. Some suffered long-term injuries and were forced to withdraw, while others withdrew because they could not meet scholarship criteria. There were also some athletes who were selected for national programs and moved from Melbourne to take advantage of training facilities or climate. There were 15 athletes who dropped out of the program and the study. Another seven scholarship holders left the program but continued to complete the tests for the whole year. This left eight athletes who participated in the program and completed the tests for the duration of the study.

Analysis focused on the athletes who completed all aspects of the study (ACE Group). The results of those athletes who left the program, but continued to complete the tests (Non-ACE Group) provided useful, informal comparison, although no formal statistical comparison was attempted because of the unplanned origins of this group. Visual examination of the performance ratings for training and competition for the ACE Group, did not reveal a strong trend. Comparison of athlete and coach ratings for the ACE Group showed a high level of agreement, both for training and for competition. Examination of the ratings of Non-ACE athletes, also showed no clear trend. These ratings were much more variable than those of the ACE Group, for training and for competition. Athletes and coaches in the Non-ACE Group showed a much lower level of agreement than those in the ACE Group.

The most clearcut results were shown in the visual analysis of the POMS data. For most participants in the ACE group, while there were fluctuations, there was a clear downward trend over the course of the year for tension, depression, anger, fatigue and confusion, and a clear upward trend for vigour. By comparison, the data for the Non-ACE Group showed no trend and much larger variability on the whole. While the split middle technique (Kazdin, 1982) was calculated for the POMS subscales, the lack of stability in the four point baselines made this statistic untrustworthy, so the visual examination of graphical data was the main type of analysis undertaken.

Examination of the self-concept and well-being data did not reveal any clear or consistent patterns, with many aspects of self-concept not changing noticeably during the year. It was noticeable that most subjects scored high all through on physical ability, but even on this scale some elite athletes perceived themselves quite low. An analysis focusing on what each athlete was aiming to develop during the year might be more fruitful, for example, if strengthening mathematical skills was a goal for one participant, the analysis would focus on maths self-concept for that participant.

At this stage, with most of the data analysed, it would appear that the ACE program did have some impact on mood states. Negative moods were systematically reduced and the positive mood state on the POMS, namely vigour, was enhanced over the year. While there was probably some negative effect of apprehension and uncertainty early in the year, the reduction of negative moods and increase in vigour continued throughout the year, so it cannot be attributed to early season exaggerated values. The lack of any trend, even early in the year, for Non-ACE participants also argues against that interpretation.

The performance rating data were more likely to be affected than any other measure by the varied patterns of training and competition in different sports. Some participants were from sports which involved competition most weeks during their season. In other sports, athletes trained for many weeks or even months for a round of competition toward the end of the season. These patterns were further influenced by state and international selection, which occurred at different times in different sports. The observations that ACE Group athletes shared greater agreement with their coaches and less variability than Non-ACE athletes suggests more stability in their lives.

While the ACE program could be one contributory factor to this stability, the experience of entering the VIS and the ACE program and then leaving them, even if it was to join the national program, was in itself a source of greater instability for the Non-ACE Group. Systematic changes in the self-concept of ACE athletes may have been a lot to expect. Many elements of self-concept might not be related to athletic development and performance. Those that are typically were high at the start of the program, so a ceiling effect might have been present. It might have been expected that a positive shift in well-being would result from the support and guidance given by the ACE program,

especially considering the clear positive shift in mood during the year. Again, perhaps on a four point scale, athletes scored high at the start of the year, leaving little leeway to indicate further improvement.

This study of a leading career education program for elite athletes suggested that despite the difficulty of measuring psychological changes in individuals who have multiple factors acting on them, there was evidence of stability in perceived performance and a positive mood shift, both of which augur well for successful current performance and the future growth and development of those persons entering the ACE program.

CAREER TRANSITIONS IN ELITE AUSTRALIAN RULES FOOTBALLERS

It is not possible here to extensively review research on career transitions. Gordon (1995) has produced a thorough review of theories, models and research, while Ogilvie and Taylor (1993) reflect a more experiential perspective. Studies of career transitions have been limited. Earlier studies (Haerle, 1975; Mihovilovic, 1968) and more recent work (Allison and Meyer, 1988; Blann and Zaichkowsky, 1986, 1988, 1989; Hawkins and Blann, 1993; Werthner and Orlick, 1986; Wylleman, de Knop, Menkehorst, Theeboom and Annerel, 1993) with North American and Australian samples of elite athletes from a range of sports have indicated that experience of the transition out of elite sport varies. For many it is traumatic, while for some it is a positive developmental experience. It can be negatively influenced by lack of coach support, financial problems, injury or health problems, deselection, and lack of pre-retirement planning. Having a plan or a new focus outside sports performance, feeling a sense of accomplishment, and receiving support from family and friends tend to facilitate a smooth transition. Several of the studies from which these conclusions are drawn, involved participants who had been retired for substantial periods, from several years to many years in some cases. Thoughts and feelings about the process are likely to change with time and other life experiences, so conclusions from those studies should be treated with caution. A number of the studies, on the other hand, were conducted with current athletes, who expressed their views about the future experience of retirement. This is an

important approach, but there remains a need to examine the experience of having retired in former athletes who have been through the transition recently.

Based on the literature available in 1991, Vanda Fortunato proposed to examine the experiences of elite athletes who had recently retired (within 6 to 12 months) in greater depth than most of the previous work. Based on the continuity theory (Atchley, 1981), a social gerontological perspective which argues that retirement transitions are less traumatic when there is a continuity of activity from pre to post retirement, Vanda planned to focus on retirees who had remained in their sport, in coaching, administration, or by playing at a lower level, compared to those who had broken completely from their sport since retiring. Vanda adopted a Grounded Theory methodology (Glaser and Strauss, 1967). In the Grounded Theory perspective no preconceived model is tested; the model emerges from the research. This gives the researcher greater flexibility to respond to issues raised by participants. The sample size and the precise nature of the topics and questions in the in-depth interviews also emerge from the process. General areas of interest are included at the start and, as important issues emerge from each, early interview, they are retained for the remaining interviews. Interviewing continues until theoretical saturation, which is reached when the researcher considers that no new themes have emerged from the most recent interviews. Analysis of the transcripts of the interviews into statements, which are then sorted into themes from which the research conclusions are derived, means that the model or description which emerges is grounded in the data, rather than comprising support for presuppositions.

Using this approach, Vanda sought a sample of elite, professional athletes in Australia. The intention was to consider several sports, but the Australian Football League (AFL) showed great interest, providing a substantial list of recent retirees and writing to them to indicate the support of the AFL for the research. It was, thus, decided to focus on Australian Rules footballers. Players were approached by telephone, told the nature of the research and invited to take part. Remarkably, none declined out of 52 players who were contacted. As the interviews progressed, it became clear that there were three distinct groups which should be considered separately. These comprised those who had voluntarily retired, those who had retired because of injury, and those who had been delisted (deselected). We decided to view these retirement circumstances as comprising

three parallel but linked studies. The distinction between voluntary retirement, and forced retirement due to injury or being delisted is consistent with previous research, particularly the Canadian findings of Werthner and Orlick (1986). Saturation was, thus, determined independently for each of these groups.

The data from these three studies are currently undergoing the inductive content analysis process from which the main themes and any model or theory will emerge. Preliminary observations, which should be treated with caution, suggest that players who retired voluntarily reported more positive transitions, that players who reported continued involvement with the sport also experienced more positive retirement transitions, and that those who both retired from elite performance voluntarily and retained other types of involvement with the sport, such as coaching or administration, experienced the most positive transitions.

It is proposed that the Grounded Theory methodology is a useful one for understanding the experiences of sports participants with respect to many aspects of sport. Its application to career transitions is raising interesting observations, which could be of great value in developing interventions to prepare athletes for retirement and to support them through this potentially traumatic transition.

FUTURE DEVELOPMENTS IN VUT RESEARCH ON CAREER TRANSITIONS

The Victoria University sport psychology research group is continuing the lines of research established in career education, through the ACE program, and in career transitions, using the Grounded Theory approach. In addition, exciting new research programs are in development in both areas. In career education, a promising approach in North America has been the development and use of the "Going for the Goal" program by Danish, Mash and Howard (1991). This structured program was originally developed for use with elite athletes, but has been used very successfully with other groups. We are currently piloting the "Going for the Goal" program in Australia to identify any cultural variations. It will then be evaluated with Australian samples.

Further collaborative research with Danish is planned in the area of retirement from elite sport. This will again employ a qualitative approach to look at the experiences of American and Australian elite athletes in depth. This work is likely to examine the perspective on retirement of current athletes, who are considered to be close to retirement. It will consider, in particular, their views about planning for retirement, barriers to such planning, factors which would facilitate planning and feelings about how the retirement process will occur. Whether an athlete controls the retirement process or whether it is externally controlled, appears to be an important issue which recurs in the literature and deserves more detailed investigation.

Collaborative work with Hawkins, Zaichkowsky and Blann is also being planned. This will address the retirement transition in elite sport from a different perspective. It is planned to identify elite athletes who have recently experienced a positive retirement transition. Qualitative and quantitative methods will then be employed to investigate the aspects of the transition process which made it successful for those athletes. Together, the results of Fortunato's current career transitions research, the collaborative work with Danish on planning and control of the process and this work with Hawkins et al. on the characteristics of successful transitions should provide valuable information to shape future career transitions interventions. Based on substantial counselling expertise and experience of two of the most comprehensive, current career education programs, we expect this exciting international, collaborative research group to be at the forefront of developing future interventions in career education and career transitions.

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