

For questionnaires in particular, a number of arguments point out weak spots which, in our view, intra-individual methods can overcome.

The origins and background of frequently used questionnaires has already been the subject of criticism for more than a decade. Some questionnaires, in fact initially developed for use in a psychiatric context, had been directly transferred to sport psychology research (e.g. MMPI, POMS). The emphasis is consequently placed on the susceptibility to, or the presence or absence of pathological characteristics and negative moods (Rushall, 1973). General personality tests for use in normal populations like CPI or 16PF, are considered not sufficient either. One can question the relevance for athletes of the general traits or characteristics examined (Fisher, 1977: fallacy of salience). With the development of sport-specific questionnaires sport psychology researchers tried to respond to this criticism. When transferring tests from academic psychology to sport psychology furthermore researchers hardly took into account the underlying trait theoretical positions of the tests. Traits are indeed based on the assumption of stability, thus invariability, regardless of situation and time. Personality inventories are in addition difficult to compare. The danger exists that similar terms from different tests are treated the same, although they are measured in different ways (Rushall, 1973).

Traditional instruments like questionnaires are not appropriate for detecting intra-individual variability. During their construction items that fail to discriminate between individuals, are eliminated. The remaining items tend to represent the extremes of a trait dimension (e.g. anxiety), so that they are not sensitive enough to detect individual changes which are small, but may be extremely relevant for a particular athlete (Smith 1989).

In a discussion on diagnostic instruments some more problems have been listed concerning the use of general and sport-specific questionnaires (Van Mele, Vanden Auweele & Rzewnicki, in press). Since an inventory is standardized, some questions might not be applicable to the athlete's situation, and thus impossible to answer. Moreover, a passive role is assigned to the athlete, as (s)he can only react to questions, fixed in advance by the investigator. When the athlete is confronted with the results, (s)he probably will find only a limited number of personally recognizable elements.

The results of even sport-specific questionnaires like SCAT (Martens, 1977) depict the general degree of, for example, anxiety, but nothing can be inferred about the potential influence on the athlete's performance or sense of well-being (e.g. whether anxiety is an

Intra-individual Research Methods

obstacle to or a facilitation of performance enhancement). The relationship with other emotions or behaviors cannot be discerned from this kind of data either¹. Such connections have to be made by the researcher, involving his/her subjectivity. Furthermore, although sport-specific questionnaires are adapted to the sport context, different reactions according to the situation cannot be distinguished, as scores are grouped into one or a few scale measures. It seems clear that interactions or correlations at the level of the individual data can hardly be examined using questionnaires.

Finally, questionnaire results have to be interpreted carefully. Norms are not always adapted to gender, level or sports discipline. Especially in small linguistic regions, of which there are many in Europe, questionnaires are still being developed. It is often difficult to create appropriate norms, split up according to each of the relevant variables, since it is difficult to fill out all cells according to the required minimum because of the limited number of athletes available (Van Mele et al., in press). In fact, as good as a comparison may seem, the population of elite athletes is so specific and so small that it will always be impossible to find a good comparison group for them (Zaichkowsky, 1980).

EXAMPLES OF INTRA-INDIVIDUAL CORRELATIONAL METHODS IN SPORT

Intra-individual research seems to have the possibilities to overcome many of the problems described above. Despite the theoretical support and recognition, applications of intra-individual correlational approaches in sport psychology, can be counted on one hand.

Rushall (1975) developed a series of questionnaires, adapted to specific sports disciplines and directed to the measurement of reported behavioral patterns. The individualization consisted of interpreting only this subset of questions which is appropriate for the athlete. The total test response was considered not meaningful. Each response in itself yielded a valuable item of information about the athlete. Problems of norms and statistics could be avoided in this way. In fact it can be questioned whether his approach should be counted among the correlational designs. Despite the quantification Rushall did not explicitly look for relationships within the individual and, if so, it happened clinically. We thought it useful however to include his approach as he clearly

¹Inventories which provide such interactional information can be developed (e.g. S-R inventory of anxiousness on different anxiety responses in different situations, Fisher, Horsfall & Morris, 1977). The extensiveness of possible relevant interactions is probably an important reason why this kind of questionnaire has not been further developed.

sensed some of the problems mentioned above and tried to maintain the individuality of the athlete, without totally abandoning the traditional method of questionnaires.

Hanin (1989) contributed to the intra-individual idea by means of the 'Zone of Optimal Functioning' (ZOF). Concerning arousal and stress all athletes have a zone around their optimal level of performance anxiety in which they perform at their personal best. This zone can be assessed empirically for each athlete individually. High or low anxiety is determined by comparing the athlete's current state with this individually established norm. Since Hanin developed the ZOF-concept for research purposes he concentrated on the assessment of a single construct, without taking into account the global functioning of the athlete nor the differentiation according to the situation. In principal however his procedure for anxiety is applicable to other reactions and to different situations as well.

Kelly's Repertory Grid Test (1955) is one of the best known grid methods and a good example of an intra-individual correlational design. Its wide recognition is partly due to the extensive theoretical background of the test (personal construct theory), one of the earliest and best elaborated theories in the cognitive direction. Methodologically it implies a specific method of gathering data, i.e. triadic sorting². Lerch (1976) investigated the construct systems of four athletes before, during and after the competitive season, concentrating on their personal functioning (at one grid side) in different situations (at the other grid side). By means of a collective or mean score per construct of functioning changes between pre-, during and post-season assessments were examined intra-individually. A more recent example is given by Russell and Salmela (1992), who investigated the intra-individual knowledge structures of an elite athlete about the sport tasks in his discipline. Categories of response strategies, collected through triadic sorting, were placed together with the sport tasks into a grid, rated and then analysed by means of multidimensional scaling. In a second step five out of six response strategies could be predicted adequately by means of regression analyses. Sadalla, Linder and Jenkins (1988) in their research on sport preference used Kelly's method for generating relevant personality descriptors, which were used in a second part to construct a questionnaire for group use. We can assume that the reason for using for Kelly's approach was probably

²Elements of one kind (e.g. persons, situations), making up one side of the grid, are presented to the subject or generated by him/herself. Triadic sorting consists of taking out three elements of this list, of which the subject has to describe in which way two of the elements are alike and different from the third. This procedure generates a list of descriptors, which is put on the other side of the grid.

Intra-individual Research Methods

that no standardized inventory was available for the goal of their research.

Performance profiling was initially developed by Butler (1989 in Butler & Hardy, 1992) as an application of Kelly's personal construct theory, but is employed in a fairly different way. It arose mainly from dissatisfaction with the athlete's passive role in the diagnostic process. Bearing this in mind Butler found points of contact with Kelly's personal construct theory, which stresses uniqueness. Since Kelly's original method implied a rather cumbersome way of collecting and analyzing data, Butler adapted the grid to what he called a performance profile. The subject has to rate for him/herself the degree to which personally generated important characteristics are present and simultaneously to give ratings for the ideal performance in order to make comparisons. Performance profiles seem to be used so far mainly for summarizing a subject's physical or technical capacities, but seem also useful for psychological materials. Performance profiling is a simplified version of Kelly's procedure, with the disadvantage that the differentiation according to e.g. the situation is dropped, so intra-individual comparisons are limited to comparing different times, current and ideal states, or ratings by different persons.

A final example of a correlational intra-individual method is given by Vanden Auweele (1988). In situation-related intra-individual personality diagnosis individually collected data were gathered in two grids (situations X emotions and situations X behaviors). Each combination was rated by the athlete according to the degree of presence of the emotional or behavioral reaction in the situation. By means of factor analysis the data were reduced to 11 situational, 3 emotional and 4 behavioral factors. The prediction of behavior was pursued using regression analyses. Vanden Auweele et al. (1993) presented another example of situation-related personality diagnosis, where the data analysis was done by means of hierarchical class analysis. There are advantages to this method compared to the first including that an overview of the athlete's functioning is better retained. A hierarchical organization of general and specific reactions in different situations could be depicted. Emotional and behavioral reactions were however still handled separately, which hindered the detection of associations between both elements. In a subsequent application this was revised (Van Mele et al., in press).

CONCLUSIONS

The advantages of correlational intra-individual approaches for research and practice

have already been discussed by several authors and seem to have gained increasing attention. This kind of methodology counts however so far but a few practical applications in sport psychology literature. The examples discussed show that diverse procedures are possible in handling individually collected data. The researcher's choice in this matter has to be guided by his/her ultimate goal, whether diagnosis of the global functioning or prediction of specific reactions is pursued; whether data will be used intra- or inter-individually; or whether situation-related or general information is sought for. In order to get researchers acquainted with correlational intra-individual methodology, students, as future researchers, and present-day investigators, especially those working in the field, should be introduced to this new and challenging domain, for which all the possibilities have not yet been explored.

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THE USE OF INTRA-INDIVIDUAL GRIDS AND HIERARCHICAL CLASS ANALYSIS IN A SPORTS CONTEXT

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Key words: intra-individual research, grid, hierarchical class analysis, sport psychology

A procedure for using an intra-individual grid in a sports context will be explained using a didactic example. Other grid applications exist (see contribution by Vanden Auweele & Van Mele to this symposium), but in our opinion the one which will be presented here has several advantages. More details about the advantages and a real example of a grid in the case study of an elite athlete can be found in Van Mele, Vanden Auweele & Rzewnicki (in press).

COLLECTION OF THE DATA FOR THE GRID

The construction of a grid starts with a retrospective interview in which the athlete¹ reviews important events. Depending on the researcher's goal, a specific period or area can be marked out, like unique or recurrent events during the athlete's sports career in the recent past and present, game-related situations or a specific period e.g. injury and recovery. The athlete is asked to describe how he felt and what he did in reaction to each of the situations. Based on the interview a grid is constructed containing on one side a list of important situations and on the other side the emotions and behaviors reported as reactions to the situations (see Figure 1). The athlete's choice of words is preserved as much as possible to keep the elements, and afterwards the results, recognizable. The athlete then fills in the grid, rating to what extent each of the emotional and behavioral reactions is applicable to each of the situations. An 11-point rating scale is proposed for use, defined by word descriptors at the points 0 = not at all applicable, 5 = just barely applicable, and 10 = completely applicable. The midpoint of the scale (5) is explained to

¹To keep the text readable the hypothetical athlete will be referred to as 'he', but could of course also be female.

the athlete by comparing it to the meaning of this score in school situations, where students who just barely pass receive 5 out of 10.

HIERARCHICAL CLASS ANALYSIS OF THE DATA (De Boeck & Rosenberg, 1988)

To perform hierarchical class analysis dichotomous scores are needed, thus the 11-point scores are grouped from 0 to 4 into one category and from 5 to 10 into the other, which parallels the explanation to the athlete (5 = barely applicable). It is not recommended that the athlete himself give dichotomous ratings, as it was found that some athletes give rather low ratings (harsh), while others rate on the average rather high (generous). This can be taken into account by the researcher by establishing the dichotomization threshold a little lower or higher. In reality a matrix of at least 15 X 15 elements, with no more than approximately 66% zeros (after dichotomization) is a condition for a statistically acceptable data analysis.

THE STRUCTURAL MODEL UNDERLYING HIERARCHICAL CLASS ANALYSIS

The structural model clarifies the connection between the original grid, filled in by the athlete, and the resulting scheme. It will be explained by means of a didactic example, based on the following dichotomous data:

SITUATION REACTION	my first compet ition	when I get behind	at the training session	during the warm-up	when my coach is present	at the champion ships
uncertain	1	1	0	0	1	1
push myself	1	1	0	0	1	1
talkative	0	0	1	1	1	1
put things into perspective	0	0	1	1	1	1
feel good	1	1	1	1	1	1
persevere	1	1	1	1	1	1

Fig. 1. Grid Showing Dichotomous Data of a Didactic Example (1 = reaction is applicable to the situation, 0 = reaction is not applicable to the situation)

The analysis of such a grid starts from the following principles (De Boeck & Maris, 1990):

- 1) A *class of situations* is a collection of equivalent situations, i.e. situations in which the same reactions are present. 'First competition' and 'get behind', for example, are both connected with the same reactions, thus belong to the same class. They are put in

a closed rectangle:

-my first competition
-when I get behind

-at the training session
-during the warm-up

-when my coach is present
-at the championships

- 2) Similarly a *class of reactions* is a collection of equivalent reactions, thus connected with the same situations, represented in a rectangle:

-uncertain
-push myself

-talkative
-put things into perspective

-feel good
-persevere

- 3) A class of situations has a characteristic *reaction pattern*, i.e. the collection of reactions connected with the situations of that class. In the example 'uncertain', 'push myself', 'feel good' and 'persevere' form the reaction pattern of the class containing the situations 'my first competition' and 'when I get behind'. The association between a class and its reaction pattern is represented by a zigzag line.

-my first competition
-when I get behind

↗↘ {uncertain, push myself, feel good, persevere}

- 4) Similarly to (3) above a *group of situations* pertains to a class of reactions, i.e. the collection of situations which are characterized by the presence of the reactions of that class.

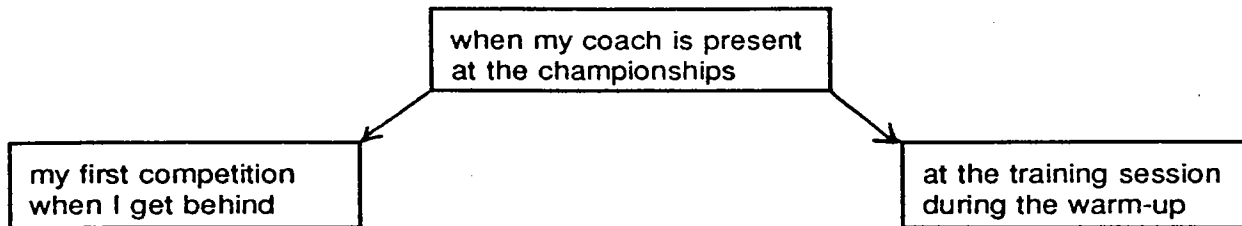
-uncertain
-push myself

↗↘ {my first competition, when I get behind, when my coach is present, at the championships}

- 5) A *situation class* can be in terms of reaction pattern an *extension* or a *reduction* of one or more other classes of situations. When a second class is an extension of a first class, the reaction pattern of the second class is enlarged with additional reactions compared to the first class. In the example the situation class containing 'when my coach is present' and 'at the championships' is an extension of the class containing 'at the training session' and 'during the warm-up', because when his coach is present and at the championships the athlete is not only talkative, puts things into perspective, feels good and perseveres, like at the training session and during the warm-up, but is also uncertain and pushes himself. A reduction is the reverse of an extension. The situation class containing 'my first competition' and 'when I get behind' is a reduction of the class 'when my coach is present' and 'at the championships'.

A class which is an extension of another one, is put above the other and connected

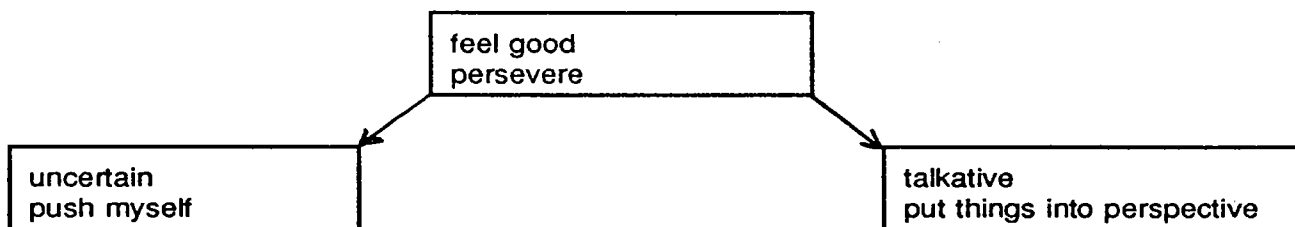
with it by means of an arrow from the extension class towards the reduction class. The result is a hierarchical structure of situation classes.



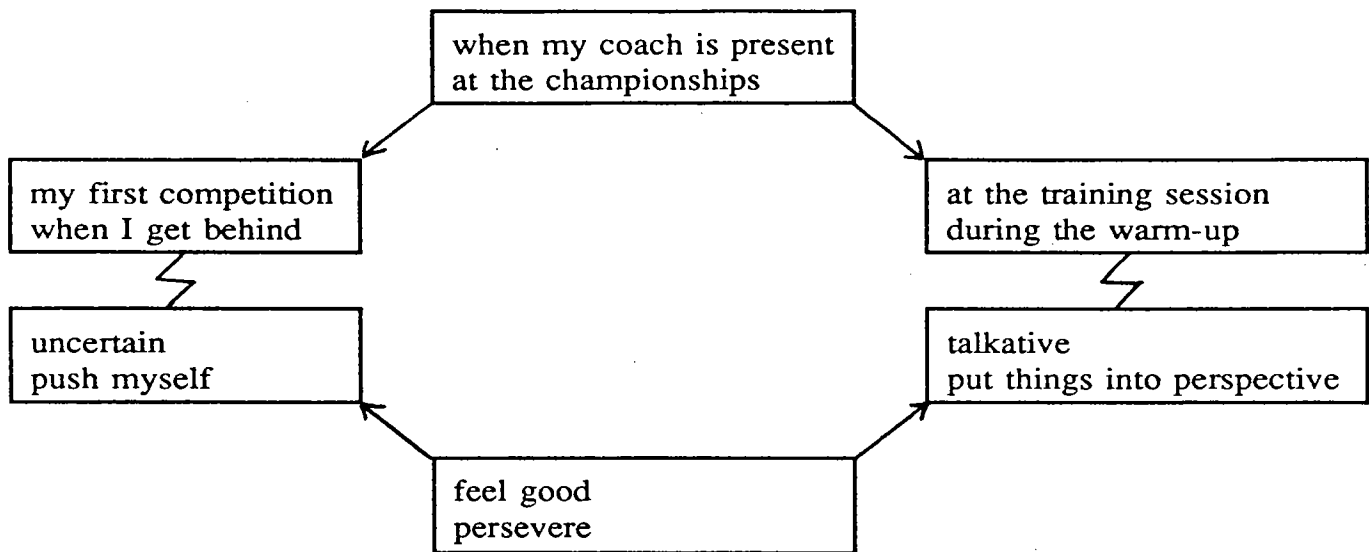
- 6) A *class of reactions* can likewise be considered in terms of the group of associated situations an *extension* or a *reduction* of one or more reaction classes. The class containing 'feel good' and 'persevere' is an extension of the class with 'talkative' and 'put things into perspective' because the athlete feels good and perseveres not only when his coach is present, at the championships, at the training session and during the warm-up, but also at his first competition and when he gets behind.

For the reaction classes one can say that the reduction classes imply their extension classes, which means that *if* the reactions of the reduction class are present in a certain situation, *then* the reactions of the extension class are also connected with this situation. In the example this means that if the athlete is talkative and puts things into perspective, he also feels good and perseveres.

The hierarchical relations between the reaction classes are represented in the same way as for the situations, i.e. with an arrow from the higher to the lower class.



- 7) The equivalence classes of situations and of reactions, together with their corresponding patterns and the related extensions and reductions form a *simultaneous hierarchical structure* of situation and reaction classes. The simultaneous structure is represented graphically by putting the hierarchical structure of reaction classes upside down and below the hierarchical structure of situation classes. The association between the corresponding patterns is indicated by means of zigzag lines (see step 3 and 4).



In the resulting scheme all principles of the former steps are depicted. A reaction pattern consists of all of the reactions below the situation class to which it is connected. Similarly a group of situations can be traced by gathering all situation classes above the reaction class with which it is connected.

THE STRUCTURAL MODEL AS A MATRIX

The model can also be represented by dividing situations and reactions into groups that can overlap each other, named bundles, so that each bundle of situations corresponds with one bundle of reactions. The bundles are composed in such a way that the situations of one situation bundle are associated with all reactions from the corresponding bundle of reactions.

In the example there are two bundles of situations and reactions. The first situation bundle contains 'my first competition', 'when I get behind', 'when my coach is present' and 'at the championships'. The corresponding reaction bundle consists of the elements 'uncertain', 'push myself', 'feel good' and 'persevere'. The bundles can be listed as a matrix by indicating the membership of a situation or reaction to a bundle by means of 1 (pertains to the bundle) or 0 (does not pertain to the bundle). For the example the following bundle matrices can be composed:

Grids and Class Analysis

	<u>bundle</u>			<u>bundle</u>	
	<u>I</u>	<u>II</u>		<u>I</u>	<u>II</u>
my first competition	1	0	uncertain	1	0
when I get behind	1	0	push myself	1	0
at the training session	0	1	talkative	0	1
during the warm-up	0	1	put things into perspective	0	1
when my coach is present	1	1	feel good	1	1
at the championships	1	1	persevere	1	1

To determine the bundles from the graphic representation, one has to follow the rule that all situations which are connected with the same zigzag line (association), belong to the same situation bundle, while the reactions connected with that zigzag line, pertain to the corresponding reaction bundle. The bundles can overlap. The overlapping elements are in the top of the hierarchical structure ('when my coach is present' and 'at the championships' for the situations and 'feel good' and 'persevere' for the reactions). Classes which are put above other classes are always part of more than one bundle. Classes which pertain to only one bundle are put close to the zigzag line and are called basic classes. If an element belongs to none of the bundles and has zeros in each column of the bundle matrix, this element belongs to the null class. For interpretation one can assume that the element, e.g. a reaction, is not present in any of the situation.

The number of bundles necessary to represent the structure is called the rank of the structure. The rank corresponds to the number of basic classes, as well as to the number of zigzag lines. In the example the rank is 2 as indicated by the 2 basic classes and the 2 zigzag lines.

GOAL OF THE DATA ANALYSIS

The goal of the data analysis is to find for a given data matrix D a model matrix M , that is at the same time as simple as possible (low rank, which means few bundles) and is a good approximation of the data in matrix D . The discrepancy between model and data is expressed as follows:

$$D - M = E$$

Matrix E contains the discrepancies between D and M , which are used to form a goodness-of-fit measure (range 0 - 1), independent of the size of the matrix. De Boeck and Maris (1990) state that a goodness-of-fit score above .60 indicates that the model corresponds well to the data.

The goodness-of-fit measure is not only applied to the total solution, but also calculated for each individual situation and reaction. This indicates how well a certain

situation or reaction fits in the class in which it has been included. When a common label is sought for a class the best prototypes (goodness-of-fit = 1 or near to 1) contribute most to its meaning. The individual goodness-of-fit is put in the scheme between parentheses at the right side of each element. The elements of the null class all receive 0.

The data analysis is performed from a low to a high rank (e.g. rank 1 to 5), fixed in advance by the researcher, so that several solutions are obtained. The choice of the definitive solution depends on the complexity of the solution (many classes and relationships or not) compared to that of a higher or lower rank, the increase in goodness-of-fit when choosing a higher rank (similar to Cattell's scree test in factor analysis) and the additional information which would be obtained in case of a higher rank. The interpretability of the total solution offers a content-related criterion.

The resulting scheme for the didactic example is shown in Figure 2. Since it is chosen for presentation purposes, all relationships could be represented perfectly by the model in rank 2 with all elements having a goodness-of-fit value of 1.00 and a total goodness-of-fit of 1.00. For an example in reality we refer to the case study described in Van Mele et al. (in press).

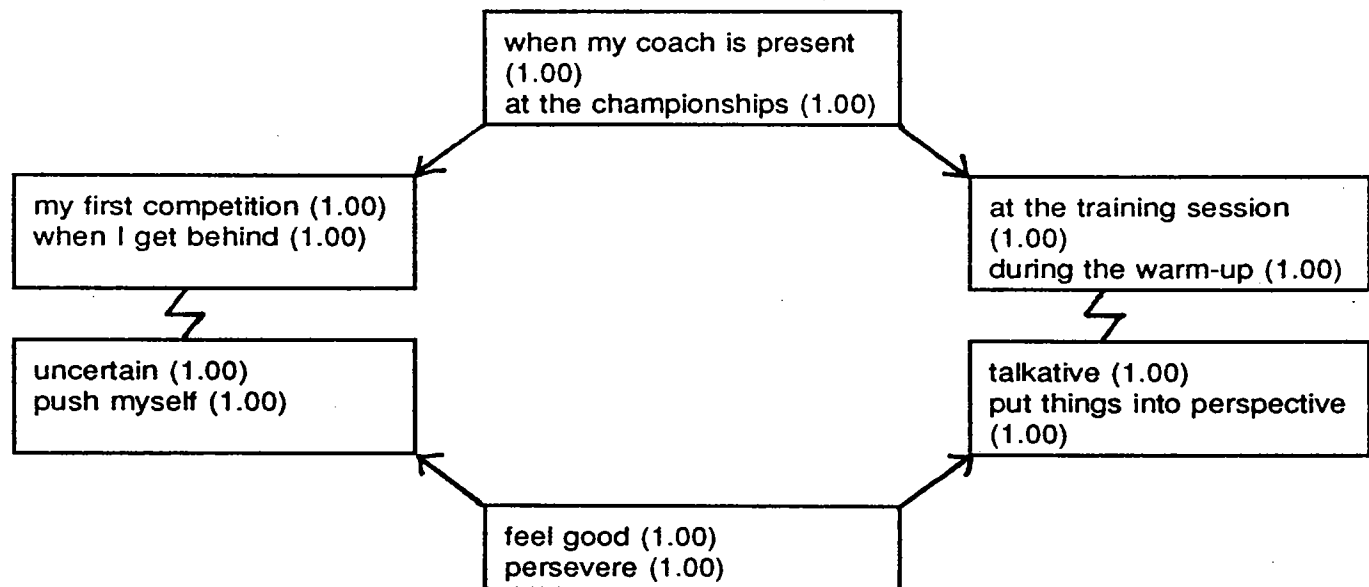


Fig. 2. Scheme Resulting from a Hierarchical Class Analysis on the Data in Fig. 1

CONCLUSION

The athlete in this example feels good and perseveres in all situations mentioned, which shows an overall positive attitude. He encountered most difficulties at his first

competition and when he gets behind, as he is then uncertain and pushes himself, is not very talkative and does not have the ability to put things into perspective. Training sessions and warm-up are experienced as not producing any pressure. The athlete is then more talkative and is able to put things into perspective, while uncertainty or pushing himself are not experienced. The coach being present and participation in championships are characterized by all of the reactions mentioned.

By means of an intra-individual grid of situations and reactions interactional data at the level of the individual can be generated and examined. By connecting groups of situations with groups of reactions a researcher can determine in which kind of situations an athlete reacts in a certain way (e.g. functionally or not at all), whether he has at his disposal a diversity of reactions adapted to the situation or is tied down to a single response pattern, etc. By focusing directly on situations and reactions relevant to the athlete, counselling can be tailor made and interventions can be directed towards concrete, individually experienced situations.

Note: The computer program for hierarchical class analysis can be ordered from P. De Boeck, Faculty of Psychology and Education, Tiensestraat 102, 3000 Leuven, Belgium.

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LECTURE

Keynote speaker : SERPA, S.

RELATIONSHIP COACH-ATHLETE: OUTSTANDING TRENDS IN EUROPEAN RESEARCH

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Key-Words: coaching; leadership; relationship coach-athlete

INTRODUCTION

Interaction processes between athletes and coaches always have been considered to be determinant factors of sports performance, for its repercussion at the behavioural, cognitive and emotional aspects of the actors.

For instance, Vanek (1989) discusses the psychological processes underlying competition, emphasising those concerning relationship coach-athlete and the importance of coach's role in influencing and managing athlete's behaviour. This author reports that coaches' interpretation of good and bad performances deeply influences success/failure of athletes because of the emotional impact it has in these ones. He concludes that both actors need learning to know each other, because co-operation between them is the psychological basis of individualization of coaching. Davis (1989), writes that the coach's influence upon their athletes will increase in the measure these ones will perceive that he understands how athletes are experiencing the competitive situation. This fact is an important contribution to the harmony of attitudes and thinking between the actors, which has a significative impact in the success of the dyad.

Crevoisier (1985), in his inquiry to French football coaches, found three tendencies concerning opinions about relationship coach-athlete: (1) they must be intense, beyond professional issues, and mainly oriented towards human relations; (2) they must be distant and limited, mainly oriented towards the task; and (3) they must be frequent, according to players' needs and characteristics. On the other hand, he also found that a number of subjects consider authoritarianism as a need, in a kind of relationship where players are considered to be workers who must obey to the higher competence of their coaches. However, some other subjects admit the usefulness of a strong communication between both actors.

In the line of similar reports in international literature, Carrier (1992) calls the reader's attention to the coach's strong control and influence on athlete's behaviour extra-training and

competition, namely in the decision of consulting the medicine doctor or the psychologist. Also the impact of coach's emotions on their athletes is referred by different authors, like Jarov (1982) and Davis (1989), that enhance the importance of the leader' self control in order not to increase the athlete's stress.

Notwithstanding the importance of these issues, only 6% of the articles in the *Sport Psychologist* are about relationship coach-athlete (Vealey, 1993). Trudel, Côté & Donohue (1993) also wrote that there was a very limited consistent knowledge on this matter until the 80's. In that decade a more systematic and scientific research was initiated, specially due to the observational studies, but we may come to similar conclusions regarding research on leadership behaviours of coaches from Chelladurai's review (1993).

In general, conceptual models have the aim of identifying and classifying coaches' behaviours. That is the case of the Multidimensional Model of Leadership in Sports (Chelladurai, 1990, 1993), the Mediational Model of Leadership (Smith & Smoll, 1979), and the Normative Model of Decision Styles in Coaching (Chelladurai & Arnott, 1985). The Dynamic Model of Coaching (Côté, Trudel & Salmela, 1993) intends to be a global and systemic perspective explaining training-competition process centred in the coach intervention. Much of the international research — including European — is supported by these model, mainly regarding the behavioural and organizational approaches. However, in what concerns the social-emotional approach, we may suggest that the French analytical orientation is a leading one. This paper will discuss relationship coach-athlete organized in these three approaches, specially highlighting the European research on the topic. A model of coach's ansiogenic behaviours in the context of sport training process will be presented too.

THE SOCIAL-EMOTIONAL APPROACH

This approach has been pointing out the emotional component that is a result of the interaction between coach and athlete, which may have both positive, or negative effects on the athlete's adapting behaviours, as well as on the affective balance of the dyad. Although American authors also have produced some research, it has been mainly developed by Europeans, namely by the French psychologists. Here, relationship coach-athlete is considered beyond the instrumental aspects towards sports achievement, that has inspired most research, and it deals with the mutual affective-emotional influences experienced by coach and athlete, which take place in the interactive process where they both are actors. According to Levèque (1992), the intensity of the relationship comes from the deep investment in the significant activity shared by both actors. This author underlines that the unique sport achievement is *the*

idealized object of two persons, that is satisfied through the performance of one of them: the athlete. That is the reason why there is a mutual dependency which can only be understood in the context of each dyad because it responds to each member history and psychological dynamics, within the frame of the institutional constraints.

Chappuis & Thomas (1988), also highlight the emotional factors in the dyad, and consider that the athlete's dependency on their coach may be explained by the need of safety in the context of incertitude and anxiety, regarding the competitive situation. The authors admit that sometimes these conditions may lead to the use of autocratic behaviours by the coach, but they suggest that he should stimulate the creativity, autonomy and self-confidence of the athletes to be developed by means of their participation in the team management, which will contribute to the two complementary functions of technical development and affective relations. Carrier (1992) refers the complexity of the coach's task, who must look secure and controlled in order to have a positive influence in the emotions of his athletes, despite the climate of incertitude and doubts where his/her intervention takes place. Bergerone, Cei, Ceridono & Formica (1988), suggest that children motivations for sport reflect their significant adults, and the coach emerges as a reference person, specially during pre-adolescence and adolescence, when the youngsters tend to separate from family, looking for new identifying models.

The multidimensionality of the coach's role have been pointed out by a number of authors in the last decades (ex: Carrier, 1992; Chappuis & Thomas, 1988; Thomas Missoum & Rivolier, 1987; Chauvier, 1987; Chappuis & Levèque, 1980; Antonelli & Salvini, 1978). Indeed, the coach faces the task of promoting the instrumental production and regulating the affective relations; the athletes' perception of confident or symbolic parental identification; the need of authoritarian interventions or the source of references concerning the athlete's body. All this leads to different, and sometimes contradictory, feelings projected on him by athletes, but also to counter-transference phenomena within or out of the sport context.

Some empirical research was developed by different authors. For instance, Kaliopouska (1993) found that finish non-professional coaches exhibited assertive and narcissism behaviours as a compensation to low levels of perceived self-esteem. By consequence, empathy with athletes decreased, leading to a disturbed relationship coach-athlete. Salminen & Liukkonen (1983), in their research with 400 finish athletes from various sports and their 68 coaches, concluded that relationship coach-athlete has a strong emotional character. In this study, the affective component of coach's behaviour observed in the training sessions, revealed the highest and significative correlations with their leadership style. It seems that the coach who cares about their athletes' opinions and feelings, has a more positive relationship with them. On the other hand, Teipel (1993), who made a research with 230 German football players

belonging to different levels of competition, reports that coaches may be one of the most important source of stress, in the origin of bad performances.

Rosado, Campos & Aparício (1993) highlight the importance of enthusiastic behaviours of coaches, as well as its perception by athletes, as optimizing factors of relationship, having positive effect in coaching. In their research with Portuguese subjects, it was possible to identify a set of enthusiasm and non-enthusiasm indicators which have mainly emotional contents. They concluded that enthusiastic behaviours are more frequent, and that there is an important variability from training to training. We may probably suggest that coach's social-emotional influence is a result of his/her spontaneous emotional states that, being transmitted to the athlete, have a consequent impact in this one affective-behavioural reactions.

THE BEHAVIOURAL APPROACH

The behavioural approach systematize research wishing to verify in a direct way, the coach's influence upon attitudes and behaviours of their athletes during the coaching process. However, some other studies about coach's behavioural modification have been reported too. Observation, questionnaires, and interviews involving athletes and coaches, are the methods used in this approach. Considering that the coach is a behavioural modifier of athletes, most of the research, tries to find out what kind of influence does take place in the process.

Research suggest that coaches influence athletes' behavioural patters beyond technical aspects. Escarti, Garcia-Ferriol & Cervello (1993), following Bandura's social learning model, studied 351 Spanish male and female youngsters ranged in age from 13 to 16, in judo and swimming. They concluded that the coach is an important source of influence concerning athletes' motivation and perception of self-efficacy. Pygmalion effect seems to take place in sport activities too (ex: Davis, 1989; Martinek, Crowe & Rejeski, 1982). Indeed, coach's expectation concerning athletes' sport potential has its expression in these ones' performance and evolution, specially in those who are younger and have lower self-esteem.

Coaches seem to have pleasure regarding the feeling of modeling athletes' characteristics. Zukowska & Zukowska (1993) in their study with 361 polish coaches having different levels of education, from 19 sports, concluded that modeling, influencing and developing abilities of people were the most valorized factors in their coaching activity. Jarov (1982) expresses the philosophy of the ex-socialist countries, writing that the coach should educate the athlete's will in "a process directed towards the influence of thinking, feelings and attitudes of sportspeople, in order to shape and develop their qualities of constant volition that

are necessary to reach the victory on behalf of the team, of the club, or of sport in general" (p.25). We just would like to raise the question whether this explicit socialist principles are exclusive of the system, or may be implicit in other European societies...

The French author Vom Hofe (1987) agrees that the coach has a determinant influence in the athletes towards conformity, namely regarding his own values. He suggest that it comes from the coach's power concerning social control, and from the athletes' wish of pleasing him. His research revealed that subjects competing in an intermediate level, had higher conformity compared to those in lower competitive levels, who have more diversified reactions concerning coach's pressure.

Intervention in competition also has been studied by some European researchers, although may be not as productive and systemized as Salmela's international group has done (Baria, Salmela, Côté, Russel, Moraes, Baier, Ping & Pristarinha, 1993; Baria & Salmela, 1987; Salmela, Petiot, Hallé & Régnier, 1980; Salmela, 1980). Isberg (1993) analysed coaches' type and quantity of messages during the game, in top level collective sports in Sweden. Results revealed that instruction were the most frequent messages, followed by positive reinforcement and social support. Pina & Rodrigues (1993) studied Portuguese coaches' behaviours and their athletes' reactions, in different levels of competition in volleyball during "time out" and "set changing". The most frequent behavioural categories were "prescriptive", "auditory", "team" and "tactic", respectively in dimensions "object", "form", "direction" and "content". Regarding athletes' reaction, the authors verified that it was 100% "attentive", and mostly "concordant". It was also concluded that lower level teams had higher values in "rejection" of athletes and "positive affection", "technical" and "psychological" of coaches.

Concerning intervention of coaches before the game and during intervals there is little production (Crevoisier, 1985; Davis, 1989; Schellenberger, 1990) and different perspectives. However, we may conclude that sometimes it is too much naif, affected by coach's emotions, may have negative emotional effects in some players, and should be more planned and systematic.

Scientific production pointed out the importance of the coach in psychological management and regulation of athletes and teams during competitions, which seems to be accomplished in a too intuitive way. Nevertheless, there is enough evidence to suggest that the importance of this function justifies to be rationally carried out, and taking into consideration the data from psychological research.

Some investigation concerning behavioural modification of coaches is reported as well. Barata & Lacoste (1988) developed a case study with a Portuguese basketball coach, who exhibited a set of behaviours to be eliminated or modified. After giving him the feed back regarding the diagnostic evaluation, the authors registered the coach's behaviours during each training session and gave the correspondent feed back again. At the end of the program, it was observed that coach's behaviour had modified according to the objectives. Similar research on coach's behavioural modification had already been reported by Cratty & Hanin (1981).

THE ORGANIZATIONAL APPROACH

This approach takes the concept that sport teams are organizations with unique characteristics, within a broader organizational context, where the coach acts like a leader who must respect the organizational aims and objectives, as well as members and situational characteristics. On the other hand, his personal factors have expression in his coaching behaviours.

The majority of research has adopted Chelladurai's Multidimensional Model of Leadership that takes the antecedents and consequences of leader's intervention, as well as the behaviours developed by him, and uses that author's "Leadership Scale for Sports" (LSS) (Chelladurai & Saleh, 1978) as an evaluating tool. LSS classifies the coach's behaviour according to his/her interaction style (instruction, reward, and social support) and decision making style (autocratic and democratic). Data from studies on athletes perceptions or preferences about their coaches' behaviours, as well as on coaches' self-perception, reveal that the higher values concern to reward (Leitão, Serpa & Bártolo, 1993, in Serpa, 1993; Liukkonen, Salminen & Telama, 1989; Serpa & Almeida, 1994; Serpa & Valadares, 1991; Sanches & Serpa, 1991, in Serpa, 1992) and instruction (Carvalho & Serpa, 1991, in Serpa, 1992; Serpa & Antunes, 1989; Serpa, Pataco & Santos, 1989). In what concerns decision making, autocratic behaviours have the lowest values in some studies (Serpa & Almeida, 1994; Serpa & Valadares, 1991; Sanches & Serpa, 1991; Leitão, Serpa & Bártolo, 1993) while democratic behaviours are less frequent in some others (Liukkonen, Salminen & Telama, 1989; Serpa & Antunes, 1989; Serpa, Pataco & Santos, 1989; Carvalho & Serpa, 1991).

Piéron (1985) discussed the decision making process suggesting that autocratic style is more adequate in complex and important problems, but athletes' participation in decision making is preferred when only one of these attributes is present. On the other hand, in the absence of any of those attributes, there is no specific preference, because the situation is considered not to be important.

Regarding gender as the independent variable, Salminen, Liukkonen & Telama (1990) verified that the female finish coaches were perceived by the athletes as less democratic and with more social support behaviours than men, while they perceived themselves as having less instruction, social support and reward behaviours compared to male coaches. Serpa & Valadares (1991), concluded that Portuguese judo coaches were more autocratic towards male than towards female athletes.

Leadership behaviours have been related to athletes maturity, considering the level of competition, age, or sport experience. Crespo, Balaguer & Atienza (1993), reported that Spanish tennis coaches use more autocratic behaviours with beginners and intermediate, then they use with advanced groups. Serpa & Valadares (1991) verified that 285 Portuguese judo athletes perceived more frequency in autocratic behaviours as experience increased. If we also analyse results of other studies (ex.: Carvalho & Serpa, 1991; Liukkonen & Salminen, 1990; Serpa, 1990), research on this topic seems not to be conclusive, which may be due to the fact that the whole phenomena is a reflex of a multifactor interaction that cannot be considered separately.

Research previously reviewed, also suggest that coaches characteristics (gender, age, professional experience) influence leadership styles, and that there are differences between athletes' perception and coaches' self-perception. Also the type of sport is related to different leadership styles, suggesting that a more structured leadership may be adequate when tasks are diverse and there is interdependence among the group members.

Although performance is the reason of sports, there is few studies in international research concerning this topic as a consequence of leadership behaviours, and so it happens in the European context, where results (Serpa & Antunes, 1989; Serpa, Pataco & Santos, 1989) don't allow us to come to reliable conclusions. The same can be said regarding European research on satisfaction as an output of leadership, although Sanches & Serpa (1991) had similar results to Canadian and American researchers, where satisfaction tends to be related to the perceptions of democratic and instruction dimensions.

CONCLUSIONS FROM REVIEWED RESEARCH

European research on coach-athlete relationship follows the international patterns, namely the ones reported in American and Canadian literature concerning behavioural and organizational approaches. Results also go in the same direction. The socio-emotional

approach, however, has been more popular among European psychologists. In conclusion, the main ideas can be summarized as follows:

- the coach is a significant person to athletes in general, and relationship coach-athlete is an important factor affecting sport performance;
- through observation or questionnaires, research has mostly described coach's behaviours and related them to athletes' behaviours;
- positive behaviours of coaches have been privileged by researchers;
- although the emotional component is an outstanding one in relationship coach-athlete, there is not enough research on coach's behaviours leading to negative emotions of athletes.

THE MODEL OF COACH'S ANSIOGENIC BEHAVIOURS

The Model of Coach's Ansiogenic Behaviours takes into consideration that the coach and his interaction with the athlete often is a source of tension and anxiety, and it proposes a framework to understand and study the negative influence of coaches in athletes. Based on the cognitive social psychology paradigm, it considers that athlete's perception of verbal and non-verbal behaviour of his/her coach, determines cognitions, emotions and behaviours connected to the competitive context where interaction takes place.

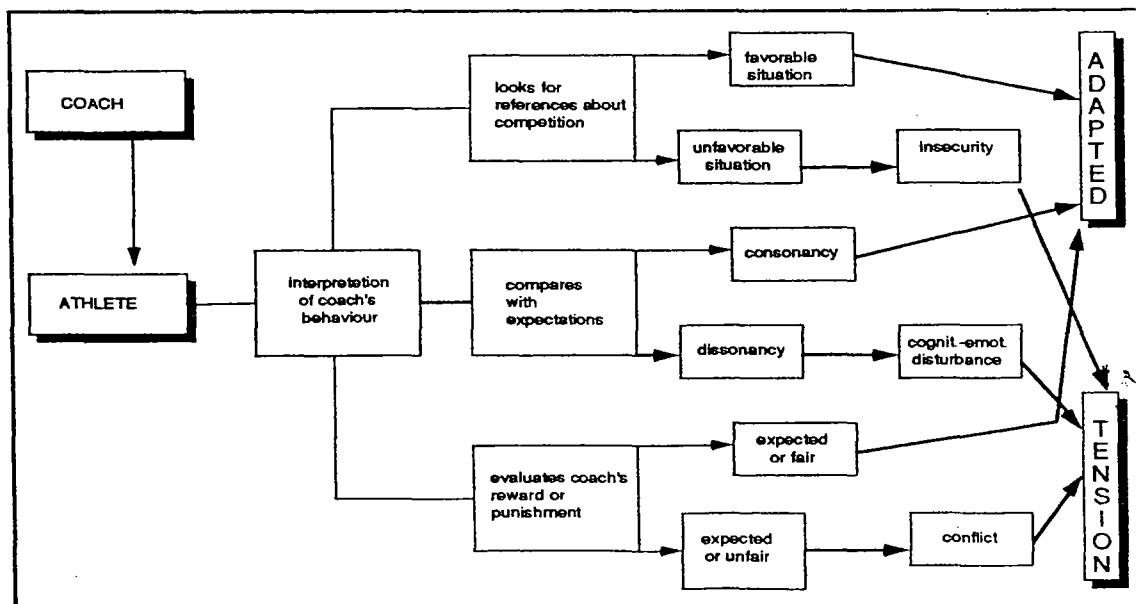


Fig. 1. Model of Coach's Ansiogenic Behaviours (S. Serpa)

In the Model, coach's verbal and non-verbal behaviours are the antecedents, and athlete's emotional reactions are the consequences. It is suggested that the athlete interprets coach's behaviours in comparing it with cognitive elements mediating his/her emotions. When perception is according to the desired or expected structure, athlete's adapting reactions take place. When this doesn't happen, tension and anxiety is experienced. Three types of situations can take place:

1.- Concerning the situation. When the athlete faces the insecure and unstable competitive situation, he looks for some signs from his coach, in order to interpret and understand how competent the athlete is to solve the problems. If these signs lead him to perceive the situation as a favourable one, he will have an adapted behaviour. On the contrary, if the situation is perceived as unfavourable, the athlete will feel insecure and anxious;

2.- Concerning the coach. The athlete has some expectations about his coach's behaviour, related to the competitive situation, based on the history of their relationship. When coach's behaviour is in consonance with those expectations according to the relational pattern, the behaviour tends to be adapted, but when dissonance takes place between expectations and coach's actual behaviour, the athlete may develop feelings of tension and anxiety;

3.- Concerning the athlete. Negative feed back or punishment may be the coach's reaction towards the athlete's behaviour, which is evaluated by the athlete according to his own references. When punishment is considered to be fair, and eventually it is expected, the athlete will adapt to the situation, but when it is unexpected or perceived as unfair, a conflict will promote emotional tension in him.

The Model of Coach's Ansiogenic Behaviour should facilitate comprehension of negative emotions of athletes — which are not considered in other models — from their cognitive elaboration of their coach's behaviours. It is supposed to help the coach to have a feed back about his ansiogenic impact in their athlete, and, then, enable him to change his behaviour. Therefore, a specific aspect of the dyadic process is supposed to be conceptualized in order to give a practical contribution to the global coaching process.

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2D POSTER SESSIONS

- P.2.1.** Sport and Gender
- P.2.2.** Coach/athletes interpersonal relationship
- P.2.3.** Prediction, orientation
- P.2.4.** Career transition

P.2.1. SPORT AND GENDER

PSYCHOLOGICAL COMPATIBILITY OF SPORTSWOMEN IN THE STRUCTURE OF MAKING-UP OF FEMALE GROUPS

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Key Words

Acrobatic female pairs and groups, making-up, psychological compatibility of the partners.

Introduction

Acrobatic pairs and groups are a specific type of small groups in sport. They are a structural unit in which the sport action is realized.

Under the notion of psychological compatibility in female pairs and groups we mean the following:

- properties of the person and the motivation of each sportswoman and their composition;
- psycho-physiological compatibility;
- interpersonal relations and their influence on sports result;
- subjectivical satisfaction of the joint action.

Method and Procedure

To study these parameters the following methods were applied: the expert appreciation, neurochronometrics, psycodiagnosics /questionnaire/, mathematical statistics.

The complex investigations were made for the first time with 150 highly qualified sportswomen taking part in it /30 female pairs and 30 groups/. 80% of acrobats were members of collection teams of Ukrain, CIS and its republics. The age of sportswomen is 13-29 years.

The apparatus that measures the time of simple moving reactions and the time of two simple consecutive movements with the exactness to 0,001 of the second was applied.

Results and Discussion

It was found out that the factor of psychological compatibility is one of the leading factors in the process of

making-up side by side with the factors of height-weight correlations, coordinative abilities and the technical preparation of sportswomen. This conclusion was made on results of expert appreciation of 36 leading coaches of CIS.

Some aspects of psychological compatibility in the female tumbling were studied. All sportswomen have answered the questions of the questionnaire worked out by us anonymously. The questions are divided conditionally into 5 blocks.

Block 1. Motivation and properties of the person of each acrobat. There is a difference between the partners in the motivation of the sports action. The majority of lowers and middles want to achieve the high sportive results or simply like to appear before spectators. But with the growth of the sportive qualification the meaning of the material stimulus increases.

28,3% of uppers are training under the pressure of parents, coach or partners; 36,6% of uppers visit trainings because they like friends and the coach. Apparently, the motivation changes with the age and the growth of the qualification. It acquires more deliberate and material forms.

It was found out that the motivation of the sports activity of partners of 19 pairs and 21 groups /out of 30/ almost completely coincide.

The different compositions of properties of the person of the sportswoman in the pairs and groups were registered.

Block 2. Leadership. It was found out that lowers sportswomen are leaders in female pairs up to 100%. In groups 93,0% leaders are lowers and 7,0% middles sportswomen take. Apparently, lowers and middles occupy the leading position because they are more responsible, older and more experienced than uppers.

Block 3. Conflicts. 44,3% of pairs and 30,0% of groups train cheerfully, with the mutual understanding. Two pairs and four groups /from 30/ during the training process have conflicts permanently.

The rest sportswomen train quietly and obey the coach more than each other. Their conflicts take place in groups much

often - 2-3 times a week or 1-2 times a fortnight. 50,0% of groups have conflicts at least once a month. In pairs the conflicts are not so often than 1-2 times a fortnight.

The typical reasons of conflicts are the following: bad performing of exercises; a lie; deslikeness of each other because of appearance and relations with friends; surplus weight of uppers; raising the voice of lowers to uppers.

30,0% of acrobats perform badly during the conflict; 10,0% can appear in competition successfully. 53,3% of sportswomen in the time of the conflict train with difficulty, under the hard pressing of the coach; 21,3% of acrobats can't train at all.

Block 4. Interpersonal intercourse. Besides sport most of sportswomen prefer to intercourse with their friends, not with their partners /especially in pairs - 93,3%/. Middle partners give half of the intercourse to friends and another half is given to their lowers. All these things are explained by alikeness /or the different/ of age and interests.

Block 5. Subjectivical satisfaction from the joint action. The majority of girls /nearly 86,0%/ are satisfied by the joint work. All the rest sportswomen want to change the partner because of the one of the following reasons: weak physical preparation; surplus weight; laziness; "bad" character.

In order to investigate deeply some aspects of the psychological compatibility we watched the compositions of different motivations of partners; the dependence of the competition result on the frequency of the conflicts, leadership and on the character of interpersonal relations.

Less coincidence of answers about the motivation and personal characteristics of the pairs with frequent conflicts was registered. In the pairs where the joint relations are more smoothly the girls are more similar in their personal characteristics, their relations are friendlier.

The situation in female groups is more contradictive and differs from the one in pairs. All the groups are the different compositions of personal characteristics. The dependence of these compositions on the frequency of the conflicts wasn't

found out. Along side with this all the acrobats achieve high sport result.

The correlation of the partners in their tempo-rhythmical characteristics were studied. The mistakes of the reproducing of two consecutive time intervals /5 s + 5 s; 4 s + 2 s/ were registered. The results of partners within the pairs and groups were compared. The average coefficient of the correlations of these results and sportive estimate /in points/ is 0,763. That is why the model characteristics were worked out on the base of the data collection.

The closest results were registered in female pairs /maximum average difference - 418 ± 144 ms/, less close result was among lowers and uppers in groups / 623 ± 134 ms/. With the increase of qualification the difference of mistakes of partners becomes much less /up to 100 ± 43 ms/. All the model characteristics were applied in the process of making-up of female groups by means of the pedagogical experiment and they have given the positive effect.

Conclusions

1. Psychological compatibility is one of the leading factors of the process of making-up of the female pairs and groups.

2. Girls with different virtues of personality can achieve high sports result.

3. The leadership of lower /sometimes - middle/ sportswomen is typical.

4. The frequency and typical reasons of conflicts were found out. Their influence on sport results is different: in 56,6% of cases the influence is negative, in 10,0% - positive, in 33,4% - neutral.

5. The most important showings of psychological compatibility in the structure of making-up of women-acrobats are the following: the maximum likeness of the partners in their tempo-rhythmical characteristics; the readiness of the lower partners to the leadership; the desire of the girls to work together and very little probability of the conflicts.

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Gender Role and Attribution

THE EFFECT OF GENDER ROLE CHARACTERISTICS
AND PERFORMANCE OUTCOME ON ATTRIBUTION STYLE

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KEY WORDS

Gender Role Characteristics, Attribution,
Internality, Stability, Internal Controllability,
External Controllability

INTRODUCTION

In sport attribution research, sport psychologists who have proposed social cognitive approach have tried to understand how athletes and coaches perceive causes or reasons for winning and losing after their performance. Much of the work in sport psychology has examined attribution style of winners and losers. Most of the attribution style research have shown that successful performances were more likely to be attributed to internal, stable, and controllable factors (Robinson & Howe, 1987). Attribution theory is traced back to 'naive psychology' (Heider, 1958) which have been used for seeking a stable and predictable environment and anticipating the behavior of athletes.

Gender difference is another aspect of attribution study. Studies done in the past on

Gender Role and Attribution

gender and attribution showed that males tend to make internal attribution for positive outcomes while females tend to adopt external attributions for success and internal attribution for failure (Deaux, 1984). Earlier research explained male and female attributions as biological difference (Deaux & Emswiller, 1974). However, recent social psychologists have adopted contextual approaches to the attribution study; recent research recognizes social role of gender-appropriate tasks as a component of attribution (Deaux, 1984). According to new research, individual woman attributes differently. Thus, individual gender role such as femininity, masculinity, and androgyny may influence attribution (Block, 1973). Therefore, the purpose of this study was to examine the effect of gender role characteristics and performance outcome on attribution.

METHOD AND PROCEDURE

This study was designed to assess the influences of gender role characteristics and performance outcome on attribution style.

SUBJECTS

The subjects were 400 female undergraduates in table tennis course at D women's college in Seoul and S women's college in Kyung Ki province.

PROCEDURES

In the initial phase of the study, table tennis skills were tested to eliminate upper 25% and lower

Gender Role and Attribution

25% level, making 200 subjects eligible for the study who were considered comparatively same table tennis skill level. The Korean Sex Role Inventory was administered to the 200 subjects. They were classified into four characteristics of gender role: (a) 'femininity'; (b) 'masculinity'; (c) 'androgyny'; and (d) 'undifferentiated'. Eighty subjects whose scores were on borderline of each category were excluded again to make same number of subjects for each category; each group had 30 subjects ($N = 120$). Subjects had 3 sets of single game of table tennis in final exam situation. The person who won the first two sets was considered winner. After their game, subjects individually took Causal Dimension Scale II in gymnasium. Discussing how they responded was not allowed for the subjects.

RESULTS

INTERNAL ATTRIBUTION DIMENSION

Analysis of the data was conducted using 2*4 ANOVA. There was a significant main effect for gender characteristics [$F(3, 112) = 13.04, p < .001$]. Newman-Keuls was adopted as a post-hoc test to see where the significant differences were. The mean of internal attribution scores for androgyny group was significantly ($p < .001$) larger than the mean internal attribution score for masculinity group which was, in turn, significantly ($p < .001$) larger than femininity group. However, the mean score for femininity was not significantly ($p > .05$) larger than undifferentiated group. There was no interaction effect ($p > .05$) between gender role characteristics and performance outcome

Gender Role and Attribution

(winners/losers).

TABLE 1. 2 * 4 ANOVA Comparing Internal Attribution Scores for Winners and Losers in Each of Four Gender Role Characteristics

Source	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>	<u>p</u>
GRC (A)	139.27	3	46.42	13.04	.000***
W/L (B)	7.62	1	7.62	2.14	.149
A * B	16.34	3	5.45	1.53	.216
Error	399.70	112	3.56		
Total	562.93	119	4.73		

***p < .001

GRC - Gender Role Characteristics

W/L - Winners/Losers

STABILITY DIMENSION

Table 2 indicates that there was no significant main effect ($p > .05$) for gender role characteristics.

TABLE 2. 2 * 4 ANOVA Comparing Stability Dimension for Winners and Losers in Each of Four Gender Role Characteristics

Source	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>	<u>p</u>
GRC (A)	31.86	3	10.62	2.38	.080
W/L (B)	10.93	1	10.93	2.45	.123
A * B	4.14	3	1.38	.31	.813
Error	499.70	112	4.46		
Total	546.63	119	10.29		

GRC - Gender Role Characteristics

W/L - Winners/Losers

The mean stability score for winners was not significantly ($p > .05$) larger than the mean stability score for losers. No significant interaction effect appeared between gender role characteristics and performance outcome [$F(3, 112) = .31, p > .05$].

Gender Role and Attribution

EXTERNAL CONTROLLABILITY DIMENSION

As Table 3 shows, the mean score for winners was significantly ($p < .05$) larger than that of losers in terms of external controllability scores [$F(1, 112)=4.21, p < .05$]. Interaction effect appeared between performance outcome and gender role characteristics [$F(3, 112)=3.74, p < .05$]. Simple effect test of external controllability was conducted for interaction analysis. There was no significant ($p > .05$) mean external controllability score difference between winners and losers in androgyny, femininity, and undifferentiated groups. However, the mean external controllability score of the masculinity group for winners was significantly ($p < .05$) larger than the mean external controllability score for losers.

TABLE 3. 2 * 4 ANOVA Comparing External Controllability Scores for Winners and Losers in Each of Four Gender Role Characteristics

Source	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>	<u>p</u>
GRC (A)	5.94	3	1.98	.79	.504
W/L (B)	10.53	1	10.53	4.21	.045*
A * B	28.05	3	9.35	3.74	.017*
Error	280.11	112	2.50		
Total	324.63	119	2.73		

* $p < .05$

GRC - Gender Role Characteristics

W/L - Winners/Losers

INTERNAL CONTROLLABILITY DIMENSION

Table 4 indicates that there was a significant main effect for gender role characteristics [$F(3, 112)=17.62, p < .001$]. Newman-Keuls analysis was utilized to determine mean differences of main

Gender Role and Attribution

effect for gender role characteristics. The mean internal controllability score for androgyny was significantly ($p < .001$) larger than the mean score of masculinity group which, in turn, is significantly ($p < .001$) larger than that of femininity group. Femininity group also had significantly ($p < .05$) higher mean score than undifferentiated group.

TABLE 4. 2 * 4 ANOVA Comparing Internal Controllability Scores for Winners and Losers in Each of Four Gender Role Characteristics

Source	SS	DF	MS	F	p
GRC (A)	168.62	3	56.21	17.62	.000***
W/L (B)	9.60	1	9.60	3.01	.088
A * B	54.07	3	18.02	5.65	.002**
Error	356.94	112	3.19		
Total	589.23	119	4.95		

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

GRC - Gender Role Characteristics

W/L - Winners/Losers

There was a significant interaction effect between gender role characteristics and performance outcome utilized with respect to internal controllability scores [$F(3, 112)=5.65$, $p < .01$]. Simple effect test was conducted for interaction analysis. There was no significant ($p > .05$) mean internal controllability score difference between winners and losers in androgyny and femininity group. However, the mean internal controllability scores of masculinity and undifferentiated groups for winners were significantly ($p < .05$) larger than the mean internal controllability scores of losers.

Gender Role and Attribution

DISCUSSION AND CONCLUSIONS

The study was designed to assess the effect of gender role characteristics and performance outcome on attribution style. The results showed that androgyny and masculinity subjects adopted internal attribution for performance outcome. Winners tended to make more internal attribution for performance outcome than losers. This finding is consistent with the finding of Bukowski and Moore (1980) who found that subjects tended to attribute internally for success and attribute externally for failure.

In stability dimension, there was no main effect in gender role characteristics and performance outcome, which is contrast to Bird and Williams' finding (1980). Winners were more likely to attribute their performance outcome to external controllability, which implies that performance outcome rather than gender role characteristics could influence attribution style. With regard to internal controllability, androgyny and masculinity subjects tended to adopt internal controllability, compared with femininity and undifferentiated groups.

Generally, the findings are consistent with those of McAuley, Russell and Gross (1983) who indicated that winners tend to attribute performance outcome to controllable factors. Gill, Gross, Huddleston and Shiffleah (1984) also argued that winning team athletes tend to adopt controllable factors. As the finding shows, individual woman adopts different attribution style based on gender role characteristics, which is contrast to previous research. Thus, future researchers should include more sport specific contextual approaches to attribution research.

Gender Role and Attribution

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EFFECTS OF SPORT PRACTICE AND GENDER ON CHILDREN'S AND ADULTS' ACHIEVEMENT GOALS IN AIKIDO AND JUDO

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KEY WORDS

Achievement goals, gender, children, adults, context of practice, aikido, judo.

INTRODUCTION

Studies of behaviour based on goals set by individuals in achievement contexts underline the role of their need to express their competence as an essential factor in the choice of tasks, the amount of effort spent and their position as regards giving up or persistence (Dweck, 1986 ; Nicholls, 1984a). Most authors appear to agree on the fact that there are two main ways of considering one's own competence (Ames, 1984 ; Dweck, 1986 ; Nicholls, 1984a). The first, self-referenced brings into play a temporal comparison ; the subject's attention is focused on personal progress in relation to the success in one or several tasks. The second, normatively referenced solicits a process of social comparison, the results only bearing a feature of incitement in so far as they reveal a superior ability to those of others. According to the way chosen to express their competence, individuals will tend to set goals involved on the mastery of tasks (Nicholls, 1984a ; 1984b) also called learning goals (Dweck, 1986) or mastery goals (Ames, 1984) in the case of a self-referenced representation or, on the contrary, ego-involved goals (Nicholls, 1984a ; 1984b) also called performance goals (Dweck, 1986) or ability focused goals (Ames, 1984) in the case of other-referenced representation. Many research on the motivational role played by the different ways of representing competence in the academic domain, carried out following the work of Ames, Dweck and Nicholls, have formed the subject of several attempts to apply it to the field of sport (Duda, 1987, 1989 ; Roberts, 1982, 1984a, 1984b, 1992 ; Roberts & Duda, 1984).

Motivational factors respond to relatively stable personality characteristics, certain individuals being more inclined to develop one type of goal rather than another. Differences between males and females in the realm of sport have also been observed. Males seem to place a greater emphasis on ego-involvement than females do (Duda, 1988, 1989 ; Gill, 1986).

If motivational goals spring partly from dispositional factors, it seems that the context of practice also influences these goals. Based on the results of various works carried out among academic domain (Ames, 1984 ; Ames et Ames, 1984 ; Ames et Archer, 1988), research

Sport Practice, Gender and Achievement Goals in Aikido and Judo

dealing with the role of motivational climate in sport has recently developed. Thus, using questionnaires, Walling, Duda & Chi (1993) have observed that in the case of young athletes aged 14, the perception of a climate orientated towards the mastery of task was positively linked to the satisfaction of belonging to a team and negatively linked to the performance worry. On the contrary, the perception of a climate pointing towards ego was concomitant with the opposite phenomena. Competition and, consequently, social comparison, are anywhere present in sport and form the most striking characteristic of most of sports activities. Yet, some disciplines develop in the absence of organised competition and contain no notion, in their practice, of an opponent. Such is the case with aikido, which despite its status as a fighting sport, tends, through a climate of cooperation to promote a philosophy of practice focused on mastery and personal progress.

Our purpose, then, is to verify if the practice of each of the two fighting activities, characterised by two different motivational climates, influences in a differentiated way the achievement goals aimed by the practising people. Our comparative study deals with judo, a competitive fighting sport, as well as aikido, a discipline having the same origins but devoid of competitive characteristics. If we take into account results previously observed in schools but also in sports context, we can expect a greater tendency towards raising the ego in males than in females. Moreover, the influence of a motivational climate in both fighting disciplines should favour a tendency of judokas more than aikido fighters towards such goals. On the other hand, the latter should incline more than the former to mastery goals. Such results should be expanded taking into account the length of time a sport has been practised and by the level of expertise (grade).

METHOD AND PROCEDURE

SUBJECTS

Faced with the impossibility of observing levels of equivalent skills whatever the age, two groups were studied separately : a group of 80 children (mean age : 12,1 years \pm 2 years) and a group of 84 adults (mean age : 28,5 years \pm 10 years). In each of the two groups, the subjects were characterised according the three independant variables (sport, grade, sex), each containing two levels. The variable activity indicates the discipline practised (aikido vs judo). Concerning the children, the variable level of expertise distinguishes between beginners of white belt level having practised their sport for less than three months and confirmed subjects of green belt level (or third kyu) with more than three years of practice (mean : 4,8 years). As for adults, the same criteria define the beginner level but a grade of expert corresponds to a first dan black belt with more than 7 years of experience (mean : 14,5 years). Subjects practising

Sport Practice, Gender and Achievement Goals in Aikido and Judo

both aikido and judo at the same time or having practised them successively have not been taken into account. The same thing applies to subjects who practise another sport besides one or the other of two aforementioned. As far as the preceding variables are concerned, certain groups of subjects have proved more difficult to enlist. Table 1 shows the number of people taken into account for each category.

TABLE 1. Sizes of Categories

Groups	Aikido				Judo			
	Beginners		Confirmed-Experts		Beginners		Confirmed-Experts	
	Males	Females	Males	Females	Males	Females	Males	Females
Children	12	6	12	8	11	7	12	12
Adults	11	9	13	10	9	6	15	11

PROCEDURE

During the first two months of the sports season, all the subjects answered the french version (Durand & al., in press) of the Perception of Success Questionnaire (POSQ) of Roberts & Balague (1991) during their aikido or judo training. This questionnaire measures motivational orientations (task involvement vs ego involvement) in sport.

MEASURE OF MOTIVATIONAL ORIENTATIONS

The POSQ contains 12 items, half of which deal with task involvement tendencies, whilst half correspond to ego orientations. After reading the phrase : "I feel most successful in sport when ...", the subjects responded to each stem about situations characterised by one or the other of the two orientations. They rated each item on a 5 points Likert scale (from strongly disagree to strongly agree).

RESULTS

The means and standard deviations of the scores obtained for each category of subjects for each of the two orientations, task mastery and ego, are shown in the Table 2. A comparison of the means (Student's *t*) obtained on the overall task scores and on the overall ego scores

Sport Practice, Gender and Achievement Goals in Aikido and Judo

show that in general children, like adults are distinctly more inclined towards task mastery than raising their ego (children : $t = 14.43$, $p < .01$; adults : $t = 15.05$, $p < .01$).

TABLE 2. Means and Standard Deviations of Task and Ego Scores

Conditions	Children				Adults			
	Task		Ego		Task		Ego	
	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD
Aikido								
Beginners								
Males	4.57	.46	2.86	.72	4.57	.34	2.60	1.00
Females	4.73	.27	3.25	.81	4.33	.43	2.16	1.01
Confirmed								
Males	4.62	.36	2.51	.61	4.12	.52	1.62	.58
Females	4.66	.41	2.29	.44	4.04	.48	1.71	.62
Judo								
Beginners								
Males	4.32	.65	3.13	.75	4.40	.40	2.65	.90
Females	4.25	.48	2.57	.58	4.37	.50	3.02	.67
Experts								
Males	4.33	.53	3.75	.71	4.46	.41	3.34	.83
Females	4.32	.37	3.10	.80	4.37	.46	3.20	.38

The data collected were processed with analysis of variance with three factors (activity, level of expertise and gender) with two different level each.

In the children group, as in the adult group, the ANOVA ²³ shows a greater general effect of the activity on the ego-involving goals, aikidokas being significantly less committed to ego than judokas ($F = 6.49$, $p < .013$ for children ; $F = 34.90$, $p < .00001$ for adults). But in both groups one can observe an highly significant interactive effect of the sport practised and the level of expertise on the ego-involving (children : $F = 14.56$, $p < .0003$; adults : $F = 10.94$, $p < .0014$). The study of simple effects shows that both confirmed or experts in aikido are very distinctly less orientated towards ego-goals than are beginners (children : $F = 8.44$, $p < .005$; adults : $F = 9.18$, $p < .003$) whilst in judo, confirmed children are more orientated towards these sorts of goals than are tyros (children : $F = 6.98$, $p < .010$). Therefore, a marked difference appears between confirmed-experts in both disciplines, those in aikido being extremely less concerned with ego involvement than their counterparts in judo (children : $F = 23.71$, $p < .0001$; adults : $F = 52.74$, $p < .0001$). On the other hand, this difference between the two sports does not appear at beginner level (fig. 1 and 2).

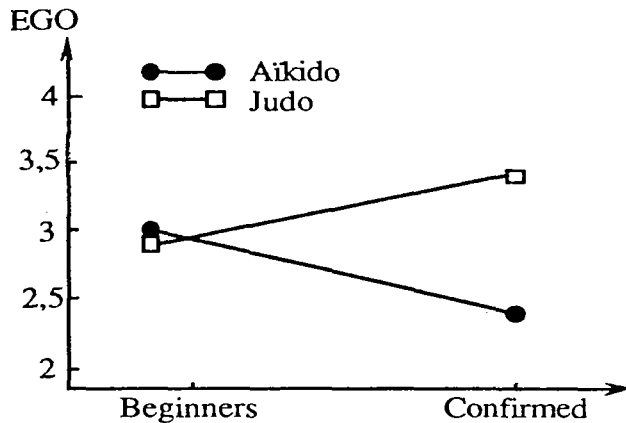
Sport Practice, Gender and Achievement Goals in Aikido and Judo

Fig. 1. Ego Involvement among Beginner and Confirmed Children

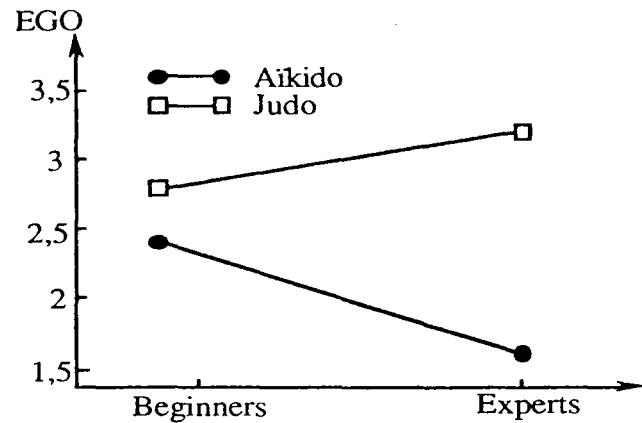


Fig. 2. Ego Involvement among Beginner and Expert Adults

Still staying in the realm of tendencies towards ego, no global effect due to gender has been observed. However, one observes an interactive effect between the gender and the activity among children ($F = 4.63$, $p < .034$). The study of simple effects shows that young boy judokas are distinctly more ego-involved than young girls practising the same sport ($F = 7.94$, $p < .006$) and than young boys practising aikido ($F = 13.92$, $p < .0001$).

As for the task mastery scores, the ANOVA points out a general effect of the activity practised by children, those practising aikido being distinctly more task mastery-involved than their counterparts in judo ($F = 10$, $p < .002$). If the adult population does not produce a similar result, a curious interactive effect appears between the activity and the level of expertise ($F = 4.01$, $p < .048$). The study of simple effects reveals that experts in aikido are less task-involved than are adult beginners in this discipline ($F = 7.41$, $p < .008$) and than experts in judo ($F = 7.14$, $p < .009$).

DISCUSSION AND CONCLUSIONS

As could be expected, the two fighting sports which are aikido and judo are distinctly different, especially concerning ego orientations. Aikidokas are, in general, less ego-oriented than judokas. Does this difference show up when the initial choice of sport is made or does it develop during the practice of the sport? It thus becomes essential to consider the interaction between the activity practised and the level of expertise. With children, as well as adults, one perceives that the gap between the ego scores in both activities is non-existent at beginner level and shows up only at confirmed-expert level. Indeed, all aikidokas lose interest in ego involvement the longer they practise their sport, whereas judokas (significant only in the case

Sport Practice, Gender and Achievement Goals in Aikido and Judo

of children) become more and more ego-involved. The level of ego-involving does not seem to determine the initial choice of one or the other sport. On the contrary, it is the practice of the sport which influences the achievement goals. In the present case, the accurate nature of this influence remains to be identified. As Ames and her collaborators have shown in the academic domain (Ames, 1984 ; Ames et Ames, 1984 ; Ames & Archer, 1988), it could be an effect resulting from the modification and shaping of the motivational orientations by the overall environment. But perhaps it is an effect of selection too, people making the decision to give up the sport in which they do not find a climate in tune with their personal tendencies. Further studies mainly centring on the motivation of sportsmen or sportswomen who have given up judo or aikido should clear up this uncertainty. Moreover, the accurate characteristics which influence motivational orientations in both sports are still to be identified.

As for the role of gender on ego involvement, the results of Duda (1988, 1989) and Gill (1986) are only partially confirmed since the more distinct tendency of boys towards ego-involving appears in young judokas. The sexual differences in matters of motivational orientations would thus need a context favouring ego-involving in order to show up. In a kind of phenomenon of resonance, the competitive context could amplify the natural dispositions of boys towards the ego.

As for the task-involving goals, whatever the categories of subjects, those orientations are more marked than ego involvements. Furthermore, contrary to the ego scores, the task scores do not seem to be very open to influences from the type of sport practised. Nevertheless, it can be observed that children practising judo are less task-oriented than their aikido counterparts but this is not found in the case of adults. Curiously, if in judo, the level of task mastery orientations does not develop between beginners and experts, the mastery scores strongly decrease in aikido when the practitioners become experts. Contrary to our hypotheses, expert judokas are more involved towards task mastery than their aikido counterparts. Therefore, in aikido adults become less and less orientated towards both the ego and task mastery. The revelation of a parallel evolution of the two orientations in the same athletes is in contradiction with Dweck's hypotheses but confirms those of Nicholls. For Dweck (1986), the learning goals and the performance goals constitute the two extreme opposites of one bipolar dimension, whereas for Nicholls (1984a, 1989, 1992), it is a matter of two independent dimensions and consequently non-antinomical. The question may be asked whether, in the case of adults practising aikido at high level of expertise, it is the absence of competition which creates a lack of objectives which might foster new mastery and progress goals. For Roberts (1992), a competitive sport can yet generate a climate of mastery. On the assumption that competition would play a role favouring the task-involving, would not this role demand certain representations of the notion of competition compatible with the search for ego promotion ? Or

Sport Practice, Gender and Achievement Goals in Aikido and Judo

would these notions be rather incompatible with such an attitude ? Further works deserve to be undertaken in order to answer a question which is of importance to the sports field.

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THE EFFECT OF GENDER AND GENDER APPROPRIATENESS OF ACTIVITIES ON SELF CONFIDENCE AND ANXIETY

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Key Words: Gender, Self Confidence, Anxiety

INTRODUCTION

Self confidence has been shown by many investigators to be an important issue in sport and physical activity (e.g. Feltz, 1988). It has been linked with continuing sports involvement (Feltz & Petchlikoff, 1983) as well as with persistence in physically demanding tasks (Weinberg, Gould & Jackson, 1979). Female self confidence has been the subject of concern for some time.

A meta analysis of female self confidence in sporting tasks by Lirgg in 1991 showed that compared to males, females tended to display lower self confidence in physical and sporting tasks. Lirgg pointed out that the effect sizes of these differences were not huge and varied according to the activity in question. Lenney (1977) proposed that females' feelings of self confidence could be affected by what she termed 'situational vulnerability'. What was meant by this term was that females may feel selectively disadvantaged in particular activities or situations. These situations were those where feedback was unclear or ambiguous, the situation was competitive, or the activity was seen as being gender typed and gender inappropriate. With respect to the latter variable it is quite clear that most sporting activities are seen as masculine appropriate, with women athletes, for example, receiving much less media attention than their male counterparts, and frequently being trivialised by the media (Mathieson, 1994).

The studies analysed by Lirgg (1991) were mainly concerned with masculine appropriate activities and a call was made for the examination of female self confidence in female appropriate activities. This was answered in 1994 with the publication of a study by Clifton and Gill who examined female self confidence with respect to cheer leading. Under these conditions there was no evidence of female lack of self confidence, rather the females were more confident than the males. However cheer leading as an activity is practically unknown in some

countries (Great Britain for example), and comes under the heading of activity rather than sport.

A study examining younger children aged 10-11 (Fazey & Keely, 1992) found that in terms of perceived athletic competence girls saw themselves as less competent than boys did on masculine and neutral activities, whereas there were no gender differences in the feminine typed activities.

A teacher who wishes to avoid sex typing activities may very well wish to introduce children to activities which are usually considered more appropriate to one gender or the other. Indeed, where mixed physical education is taught in school it is almost inevitable. A lack of confidence may lead to feelings of apprehension and anxiety and may thus result in some stress for a child faced with a new activity.

The CSAI-2 (Martens, Burton, Vealey, Bump & Smith, 1990) was specifically designed to measure multi-dimensional components of anxiety and self confidence in a competitive sporting situation. It has been used extensively to assess feelings of precompetitive anxiety (Parfitt, Jones, & Hardy, 1990). Furthermore it has been shown (Jones & Cale, 1989) that females show evidence of lower self confidence and higher anxiety, particularly cognitive, before an important competition.

It would appear therefore to be a useful instrument to examine precompetition feelings when confronted with gender appropriate and inappropriate tasks. In view of the implications for teaching it was decided that the aim of the study would be to examine precompetitive feelings of self confidence and anxiety in boys and girls when anticipating participation in gender typed tasks.

METHOD AND PROCEDURE

Subjects

The subjects were ten boys and ten girls aged 12-13 who attended a local mixed comprehensive school.

Tasks

The subjects were required to perform 2 tasks. One was a skills task related to the game of netball, and the other task was related to the game of football.

The netball task consisted of the subject standing in between two 'feeders'. These were positioned at the side of the subject and at a distance of 6 feet. The subject was thrown the netball by feeder number one. He/she then had to pivot and pass the ball to feeder number two. Each subject received 20 passes in total, 10 from each feeder. They were lead to believe that the tasks were being scored.

The football task consisted of dribbling the football round six cones, which were situated at a distance of five feet from each other. The subjects were lead to believe they were being timed on the task.

Procedure

All testing took place outdoors during a normal Physical Education lesson. The boys and girls were randomly paired for the duration of the lesson, and were told that they would be competing against their partner during a football test and a netball test.

All tests were conducted in pairs. At approximately five minutes before each pair was due to take their test, the test was explained to them and they were fitted with heart rate monitors. A heart rate reading was taken. They were then given the CSAI-2 to complete. When both children had completed the questionnaire the test was administered. The netball and football tests were administered in a counterbalanced manner.

As the experimental manipulation was meant to approximate to a real life teaching situation the remainder of the group acted as an audience.

Design

The study was a repeated measures design on the type of task, with gender being the between subjects variable. The dependent measures taken were heart rate, cognitive anxiety, somatic anxiety and self confidence.

RESULTS

The data for each of the dependent variables were analysed using a two way analysis of variance (gender x task) with repeated measures on the latter factor. The means and standard deviations are shown in Table 1.

TABLE 1. Means (and Standard Deviations) of Group Scores on CSAI-2 Components and Heart Rate.

Task and Group	Heart Rate in beats per minute	Cognitive Anxiety	Somatic Anxiety	Self Confidence
Football/ Female	107.4 (16.4)	21.1 (4.7)	19.9 (4.1)	15.0 (3.4)
Football/ Male	102.3 (15.8)	12.5 (3.5)	13.4 (3.7)	26.2 (7.1)
Netball/ Female	100.6 (14.9)	16.4 (4.7)	15.8 (3.9)	20.4 (3.8)
Netball/ Male	112.2 (16.0)	16.3 (5.4)	17.1 (6.3)	21.2 (7.2)

Analysis of the CSAI-2 data for cognitive anxiety revealed a significant gender x activity interaction ($F_{1,18}=14.33$, $p<.001$) together with a significant main effect of gender ($F_{1,18}=6.37$, $p<.05$). There was no main effect of activity. Post-hoc Tukey tests showed that the girls were significantly more cognitively anxious before the football task than before the netball task ($p<.05$). They were also significantly more anxious than the boys before the football task ($p<.01$). Although the males were more anxious before the netball than the football task, this effect did not reach significance.

Analysis of the somatic anxiety data also revealed a significant gender x activity interaction ($F_{1,18}=12.59$, $p<.01$). There were no significant main effects. The post-hoc Tukey analysis revealed that the girls were significantly more somatically anxious before the football task than the boys. ($p<.01$).

The self confidence data revealed a similar pattern to the cognitive anxiety effects in that there was a significant gender x activity interaction ($F_{1,18}=19.61$, $p<.001$), and a significant main

Gender and Self Confidence

effect of gender ($F_{1,18}=7.13, p<.05$). The post-hoc Tukey analysis revealed that the girls were significantly less confident before the football than the netball task ($p<.05$), and less confident before the football task than the boys ($p<.01$). It was also shown that the boys were less confident before the netball task than the football task ($p<.05$), but not any less confident than the girls. See Fig. 1 for a graphical representation of these data.

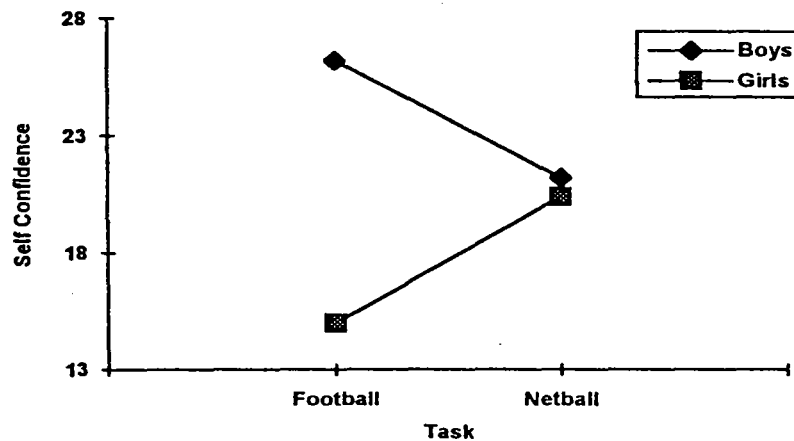


Fig. 1. Mean Self Confidence Scores for Girls and Boys on Football and Netball Tasks

There were no significant effects in the heart rate data, although the gender x activity effect approached significance ($F_{1,18}=3.36, p=.08$). This effect is depicted graphically in Fig. 2 where it can be seen that this interaction seems mainly due to the lower heart rates of the girls before the netball task, and the higher heart rates of the boys before this task.

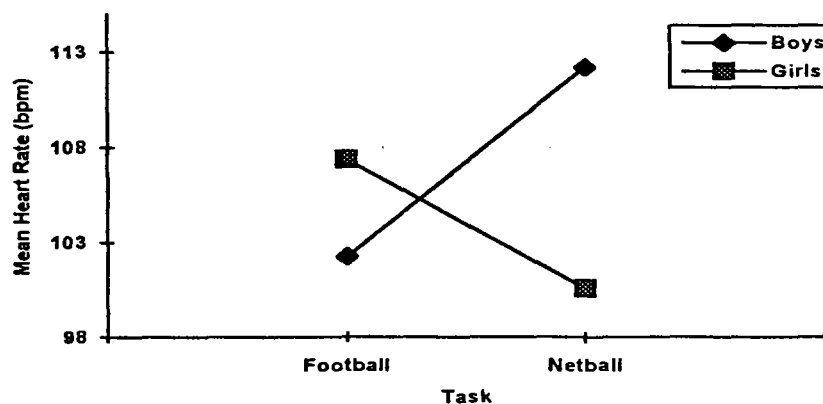


Fig. 2. Mean Heart Rates (in beats per minute) of Boys and Girls before Football and Netball Tasks.

DISCUSSION AND CONCLUSIONS

There would seem to be ample support for Lenney's (1977) notion of 'situational vulnerability' in that the data show increased levels of anxiety and decreased levels of self confidence for the girls anticipating a competitive gender inappropriate task. This is borne out by the interaction effects for cognitive and somatic anxiety and self confidence, and the follow up post-hoc analyses.

Although the heart rate data follow a similar pattern to the questionnaire data it was interesting that no significant effects were found, only trends. As these data were taken approximately five minutes before testing began, it is possible that at this time heart rates had not risen to their preperformance peak. It is interesting nevertheless that the greatest discrepancy in heart rate is between males and females in the netball task. This is not reflected in the somatic anxiety data where the means are much closer (17.1 for the males and 15.8 for the females). This may be an indication of 'faking good' on a questionnaire on the part of the males, or possibly an indication of 'male boastfulness' (Corbin, Landers, Feltz & Senior, 1983). This explanation is of course only tentative, but is provided as a suggestion for future research.

Although interaction effects supersede main effects in this type of design, it is probably worth noting that both cognitive anxiety and self confidence show significant main effects of gender. These effects are due higher cognitive anxiety and lower self confidence of the girls over the tasks as a whole. Indeed post-hoc analyses of these variables (and somatic anxiety) show that at no time were the girls' levels of anxiety lower than those of the boys, even in the netball task. Neither are their levels of self confidence ever higher. This may indicate that sport and physical education pose particular problems for girls.

In an effort to reproduce realistic teaching conditions the tasks were undertaken in a mixed sex, competitive environment. Children are regularly taught under these conditions, and the results are therefore pertinent to everyday practice.

However, it could be argued that this manipulation confounds several variables. There is the issue of mixed vs. single sex. Lirgg, (1993) has shown that mixed sex teaching in physical education has the effect of raising perceived competence levels of boys, whilst slightly, and non significantly, lowering those of girls in the short term. It would be instructive therefore to repeat the experiment but using a single sex testing procedure.

One of Lenney's (1977) other factors hypothesised to contribute to 'situational vulnerability' is competition. The current experiment took place in a competitive situation. This manipulation may therefore have confounded the results, although Lirgg, (1991) failed to find any evidence for a competitive situation adding to the gender effect in self confidence.

These factors are of great theoretical importance and could be studied further. The issue of mixed vs. single sex teaching is of course of great practical significance. If mixed sex teaching is causing heightened anxiety and lower self confidence levels in adolescent girls it should be an important consideration for curriculum design.

In conclusion then, the study has shown evidence to support Lenney's (1977) contention of 'situational vulnerability' affecting the self confidence of girls in a sporting context. It has also been shown that in the sports situation adolescent girls do not show higher levels of self confidence than boys, nor lower levels of anxiety, even in gender appropriate activities. These findings should be taken into consideration by physical educators in planning teaching strategies, particularly in mixed situations.

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SEX-ROLE ORIENTATION, ATTITUDES AND ACHIEVEMENT: THE CASE OF THE ISRAELI FEMALE TENNIS PLAYER

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INTRODUCTION

As female adolescents enter high level competitive tennis, they appear over time to become progressively more masculine by their looks, their walk, their mannerisms. In order to understand the process of sex-typing there have been many studies investigating sex-role identity of women who participate in sports. The social expectations as they still exist today may psychologically influence competitive female athletes and how they view themselves. Research studies have attempted to assess the degree to which sex-role orientation influences the role conflict perceived by the female athlete. Rector (1971), suggests that although female athletes see themselves as masculine in sport situations, they consider themselves as feminine in social situations.

Bem Sex-Role Inventory (Bem,1974) serves many researchers in helping to understand the connections between sex typing, sex role identity, role conflict and other gender issues. An acceptable social image of femininity is characterized by the ability to be understanding, affectionate and concerned for the welfare of others. Masculinity has been associated with the ability to be independent, aggressive and connectively focused on getting the job done. Androgynous individuals, people with the ability to integrate both the masculine and feminine aspects of their personality, are more likely to be psychologically healthy in today's complex society (Bem,1975).

Female athletes often experience role conflict as the expressively oriented female part is in conflict with the instrumentally oriented athletic part (Zobel, 1972). This

dichotomy is indicative of the disparity between society's stereotypical view of acceptable female behavior and the traits necessary for successful participation in competitive sports (Del Rey, 1978). The women involved in sport may view themselves as androgynous or feminine, although society tends to label them as masculine (Corbett, 1981). Uguccioni and Ballantyne (1980) discovered that a greater number of athletes viewed themselves as masculine or androgynous as compared to their control group. Other research shows that sports, in general, attract and involve androgynous women (Harris, 1985).

From a psychosocial perspective, there is an indication of a linkage between sex-role identity and how women's role in society is perceived by female athletes. The perception of women's role in society is defined by women's "traditional" versus "modern" sex-role identification in the realm of family, work and male-female relationships (Haavio-Mannila, 1967). When women who choose to compete in high level sports enters a "man's world". It would seem to follow that they would be liberated in other areas of their lives that relate to sex-role identity. It seems that there is no clear connection between sex-role identity and the perception of women's role in society among female athletes.

The traditional-modern sex-role orientation seems to be situationally specific (Snyder and Kivlin, 1977). In order to reconcile feelings about their own femininity, female athletes may embrace a traditional view of women's role in society to emphasize they are still "real" women (DelRey, 1977).

Research indicates the female athlete tends to adopt defense mechanisms in order to solve these sex-role conflicts. This may result from the fact that society discourages women from pursuing sport excellence. Female athletes sometimes operate in an "apologetic" way to reduce the cognitive dissonance they may feel (Felshin, 1974). While expressing a strong commitment to sport participation, they may report playing just for fun and winning by chance to affirm their femininity in the eyes of society (McHugh, 1978).

sport psychologists, who want to help female athletes during adolescence as they form their sex role identity, need tools, knowledge and understanding of this conflict and how it affects the female athletes. Most of the research until now has involved female athletes ages 18 and older.

The purpose of this study is to investigate the connection between sex role identity development, achievement in tennis, and the perception of women's role in society among adolescent female tennis players in Israel.

This research will focus on the developmental process of girls, ages 10-18, in order to understand their sex role typing during this period. This population was chosen because the structure of the tennis program in Israel allows every child to participate in a social program. The programs within the Israel Tennis Centers and other clubs throughout the country are characterized by low cost, provision of equipment and coaching. Therefore the population that plays tennis tends to be demographically varied and heterogenic. It is important to note that attitudes toward women's role in society in Israel might be influenced by the fact that all girls in Israel are inducted into the Army at the age of 18.⁽¹⁾ One can assume from this that the girls in Israel would tend to be "modern" since the army has aspects of combat and is considered another "male's world".

METHOD

Sample

The data used in this paper was collected by means of self administered questionnaires. The subjects included 97 female tennis players separated into three cohorts according to the division of age in tournaments: 10-12 (N=33), 13-14 (N=33), 15-18 (N=31). These subjects represented the ranked female tennis players in their age groups. A comparison group of non-tennis players (N=75) was taken from parallel neighborhoods, i.e.

(1) Religious girls are inducted but they do substitute service and most of them do not tend to participate in sport.

similar social-economic backgrounds. In the control group, of the 100 questionnaires distributed, only 75 usable questionnaires were returned. The cohort separated into three cohorts: 10-12 (N=21), 13-14 (N=24), 15-18 (N=25).

Instruments

Two instruments were used in this study: The Bem (1981) Sex Role Inventory (BSRI) and the Haavio-Mamilla (1967) Attitudes Toward Women Scale (ATWS). The BSRI was validated for adults in Israel (Safir et-al,1982). In revalidating the tool, for female adolescents 18 masculine items and 15 feminine items were rated significant. On the second instrument, the ATWS, a factor analysis was conducted with an Oblimin rotation based upon the assumption that there were relations between the items. Out of 14 questions only one item was deleted from the questionnaire. The three factors were gender equality in politics and management (n=4), gender division of labor at home and work (n=5), and assertiveness (n=4).

RESULTS

In order to check the difference between sex typing in each cohort, a T-test was conducted on undependable samples as shown in table 1.

From table 1, it is clear that except for the feminine scale, ages 13-14, there were no significant differences in any other categories. Nevertheless, there were differences that were not significant due to the small sample in this research. In the younger group, there were no differences in sex-typing. In the middle group, ages 13-14, the tennis players scored significantly lower on femininity and somewhat higher on androgyny than the control group. In the older group, ages 15-18, the tennis players scored higher on the masculine scale.

Table 1. BSRI t-scores, means and standard deviation for female tennis players and the control group by cohort.

Sex-Typing	Tennis			Control			t-scores
	n	M	sd	n	M	sd	
Feminine (10-12)	33	.30	.47	21	.23	.44	.51
Masculine (10-12)	33	.21	.41	21	.29	.46	-.61
Androgyny (10-12)	33	.27	.45	21	.33	.48	-.47
Feminine (13-14)	33	.15	.36	28	.43	.50	-2.49**
Masculine (13-14)	33	.21	.42	28	.29	.46	-.66
Androgyny (13-14)	33	.39	.50	28	.21	.42	1.51
Feminine (16-18)	31	.26	.45	26	.31	.47	-.41
Masculine (16-18)	31	.36	.49	26	.19	.40	1.36
Androgyny (16-18)	31	.19	.40	26	.23	.43	-.34

*p<.05

**p<.01

Table 2 shows that there were no differences on the Bem between younger and medium age tennis players. The only differences were between older girls who scored significantly lower on androgyny than the medium girls. The control group showed no significant differences among cohorts in sex typing. A slight difference was viewed as the younger girls scored lower on the femininity scale than the medium group.

Table 2. BSRI t-scores, means, standard deviation, between cohorts of the tennis group.

Sex-Typing	Feminine				t-score	Masculine				t-score	Androgyny				t-score
	n	M	sd			n	M	sd			n	M	sd		
Tennis															
age 10-12	33	.21	.42			33	.24	.44			33	.33	.48		
				.63					.29					-.50	
age 13-14	33	.15	.36			33	.21	.42			33	.39	.50		
				-1.05					-.99					-1.45**	
age 15-18	31	.26	.45			31	.32	.48			31	.23	.43		
Control															
age 10-12	21	.24	.44			21	.29	.46			21	.33	.48		
				-1.39					.00					.92	
age 13-14	28	.43	.50			28	.29	.46			28	.21	.42		
				.91					.79					-.14	
age 15-18	26	.31	.47			26	.19	.40			26	.23	.43		

*p<.05

**p<.01

In analyzing the results of the Attitudes Toward Women in Society, as shown in table 3, there was a significant difference between younger girls on the scale of gender equality in politics

and management and gender division of labor at home and work. The tennis girls were more traditional on gender equality and politics and management and gender division of labor at home and work than the control group. In all other groups, the tennis players tended to score more traditional than the control group.

Table 3. ATWS scores, means and standard deviation for female tennis players and the control group by cohort.

ATWS	Tennis			Control			t-scores
	n	M	sd	n	M	sd	
Politics (10-12) and Management Division of Labor	33	4.85	1.47	21	5.6	.52	-2.28*
Assertive (10-12)	33	4.74	1.35	21	5.44	.51	-2.26*
Assertive (10-12)	33	4.45	1.07	21	4.73	1.10	-.88
Politics (13-14) and Management Division of Labor	33	4.95	1.84	28	5.5	.80	-1.48
Assertive (13-14)	33	4.68	1.69	28	5.05	.89	-1.03
Assertive (13-14)	33	4.52	1.24	28	4.76	.91	-.84
Politics (15-18) and Management Division of Labor	31	5.5	1.12	26	5.72	.46	-.94
Assertive (15-18)	31	5.16	1.16	26	5.39	.84	-.82
Assertive (15-18)	31	4.4	1.34	26	4.23	1.48	.45

*p<.05

**p<.01

The results in table 4 show that comparing tennis players of all ages with each other, no differences were found on any scales of the ATWS. The control group showed significant differences between the younger and older girls. They scored significantly more modern than the 13-14 girls on the division of labor at home and work scale.

In the tennis group, all players who were ranked among the first 33 in each age group were included in the sample. The data was analyzed based upon the level of ranking. The girls were separated according to the average amount of points they achieved by their performance in tournaments in 1994.

Girls who were top ranked tennis players at ages 10-12 scored lower on femininity than the other players (M=.09, sd=.3;

M=.36, sd=.5 compatible). Girls who were top ranked at ages 13-14 scored higher on masculinity than the other players (M=.3, sd=.42; M=.17, sd=.38 compatible). Top players, ages 13-14, scored significantly traditional on all three factors of the ATWS. Top players, ages 15-18, showed no significant differences on the Bem yet had tendencies toward having more traditional attitudes on the ATWS than the other tennis players.

Table 4. ATWS, means and standard deviation, between cohorts of the tennis and control groups.

Sex-Typing	Politics & Management				Division of Labor				Assertive			
	n	M	sd	t	n	M	sd	t	n	M	sd	t
Tennis												
age 10-12	33	4.84	1.47		33	4.74	1.35		33	4.45	1.07	
				-2.4				.14				-.23
age 13-14	33	4.94	1.84		33	4.68	1.69		33	4.52	1.24	
				-1.44				-1.33				.35
age 15-18	31	5.5	1.12		31	5.17	1.16		31	4.4	1.33	
Control												
age 10-12	21	5.61	.52		21	5.44	.51		20	4.73	1.12	
				.54				1.79*				
age 13-14	28	5.5	.80		28	5.05	.89		27	4.76	.91	
				-1.24				-1.45				.02
age 15-18	26	5.72	.46		26	5.39	.84		26	4.23	1.48	

*p<.05

**p<.01

DISCUSSION

From a developmental point of view, a younger girl who plays tennis experiences the world in a non-traditional way as she has already entered a "male's" world. The combination of androgynous sex typing and modern attitudes toward women's role in society allows her to feel comfortable with her choice of participating seriously in tennis. It is acceptable for her to be a "tomboy" as she doesn't yet face the demands of society. She is not yet in conflict with society's stigma toward women in sport.

As she enters adolescence, ages 13-14, she becomes less feminine and more androgynous. The top ranked players at this age who are oriented toward a professional career in tennis, already score high on masculinity. Contrary to the sex typing, the entire

tennis group is more traditional than the comparison group. Perhaps this can be seen as a defense mechanism that the adolescent girl uses to reconcile her feelings about her femininity. By choosing a more traditional view of the woman's role, she alleviates her discomfort with her "masculine" self. The findings seem to indicate that ages 13-14 are the most crucial and problematic for the female tennis player. It is at this point that she must decide whether to continue to play tennis and cope with her feminine identity struggle or to "drop out." In fact, it is at this age that half the tennis players decide to stop playing. (There are 100 ranked female tennis players at age 14 in Israel and 50 ranked female tennis players at age 16).

At ages 15-18, the tennis group as a whole scores high on the masculinity scale and low on androgyny as compared to the control group. There are less differences between the top ranked players and the lower ranked players in this age group. This may be due to the fact that they have all made the same choice to continue playing tennis and are coping with their sex role identity struggle in similar ways. The entire tennis group scored more traditional than the control group indicating their continual need of this defense mechanism. However the differences between the tennis group and the control group on the ATWS were less than at age 13-14. Perhaps this result may be attributed to the fact that all the girls at age 18 will be inducted into the Army and therefore the gap on the ATWS becomes narrower.

In conclusion, sport psychologists need to be aware of this struggle, especially at ages 13-14, and help the girls to develop tools to confront these issues, and skills to deal with the stigma of being a female athlete. The socialization process is slow to change so perhaps psychologists need to approach this issue from a different angle. As the girls get older and become more focused on tennis and competition, they lack exposure to other areas of life. They develop only one side of their personality, the masculine side, and are neglecting their feminine development. Perhaps because of their lack of exposure to traditional female activities, tennis itself may eventually become a defense used to avoid dealing with these undeveloped

areas. Sports psychologists need to help the girls develop all aspects of their personality, for them to become more androgynous, and ultimately more comfortable with their choice to participate seriously in sport.

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THE RELATIONSHIP BETWEEN PARTICIPATION MOTIVES AND ATTRITION OF FEMALE COMPETITIVE GYMNASTS

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A study to examine the motives for participating in competitive gymnastics and reasons for attrition was conducted. Thirty seven former female competitive gymnasts were surveyed using two parallel questionnaires used by Klint and Weiss (1986). The questionnaires used a likert scale of 5 to 1 ranging from "extremely important" to "not important at all." In addition an open-end question was asked to ascertain other reasons for participation in or attrition from gymnastics.

The results from this study indicate that the main motives for participating in gymnastics were "I like to have fun" (51.35%), "I want to learn new skills" (40.50%), and "I like the challenge" (37.83%). The attrition motives most frequently considered to be "extremely important" included "I was too old" (21.62%), "Did not like the pressure" (19.81%), and "I was injured" (16.22%).

A factor analysis was conducted and revealed nine categories of motivational factors. These included a) challenge, b) team affiliation, c) aspects of competition, d) fitness, e) action, f) situational, g) parental pressure, h) social recognition and, i) achievement status.

Additional participation motives given in the open-ended question included those associated with, body image, aesthetics of the sport, individual sport, economic reasons and to overcome fear. Attrition motives included, problems with coaches, other commitments, wanted to leave at the top and physical limitations.

One reason for the low relationship between the motives for participation and motives for attrition could be the retrospective nature of the study. It is recommended that a sport specific attrition motivation questionnaire for gymnastics be developed.

Key Words.

Attrition, Participation, Gymnastics.

INTRODUCTION AND LITERATURE REVIEW

Many reasons have been suggested as to why children participate in sport. These include for fun, for a challenge, to improve their fitness, and for socially related reasons, such as meeting friends, meeting new people, and travelling to new places. These motives vary not only between individuals, but also groups of individuals, different sports, different age groups, and the genders (Robertson, 1982).

Klint & Weiss (1986), in a study of 106 gymnasts, ranging in age from 7-25 years, derived seven factors representing the motives for participation in gymnastics. These motives were obtained through the use of a questionnaire adapted from one designed by Gould, Feltz & Weiss (1985). These seven factors were labeled Competition, Action, Fitness, Team Atmosphere, Situational, Social Recognition, and Challenge. The motive of "Action" was reported by 21.6% of the former gymnasts, to be the most important motive for participation in gymnastics. A significant difference ($p < 0.05$), in the motivational factors of the competitive, recreational, and former gymnasts was found. The competitive and former gymnasts were more highly motivated by the competitive aspects, while the recreational gymnasts were more motivated by the situational (use of equipment and having fun) and fitness motives.

Additional reasons supplied by children for participating in gymnastics and other sports, have been reported by various researchers. These include skill acquisition (Johns, 1985), competence and skill development (Johns, Lindner & Wilko; 1990, Klint & Weiss; 1987), fun (Klint & Weiss; 1986, Robertson; 1992), health, fitness, influence of significant others, social status, affiliation and energy release (Brodkin & Weiss; 1990).

A wide range of reasons have been offered as to what causes childhood attrition from sport. These reasons often include aspects concerned with too much pressure from both coaches and parents, problems with coaches, lack of progress/ ability/ enjoyment, loss of interest, time commitment, cost, competitiveness, injury, interests in other activities, and interest in other sports (Johns, Lindner & Wilko, 1990; Klint, 1985; Robertson, 1992).

Participation and attrition.

Lack of fun, and a low level of successful/ rewarding experiences have been identified to be the main reasons that children dropout of sports programs, especially those of a recreational nature (Klint, 1985; Klint & Weiss, 1986; Pooley, 1980).

The relationship between the motives for participation and those for attrition, appears to be unclear. Few studies have looked at the relationship between these motives with Klint & Weiss (1986) finding little correlation ($r < 0.4$) between the motives of participation and those of attrition. The Canadian NCCP (1983) however, suggests that there is a relationship between the two motives, and that if a gymnast's motive for participation is not being satisfied, then he/ she will leave the sport. The majority of studies only report on the motives for participation in sport by children, or look at the reasons for attrition, not a relationship between the two sets of motives.

The purpose of this study is to (a) identify the motives that lead children/ adolescents to participate in competitive gymnastics, and the causes of their subsequent attrition, and (b) to investigate the relationship between these reasons for participation and attrition.

METHOD

Sampling and characteristics.

The sample comprised of thirty-seven former competitive gymnasts, aged between 8-23 years. All of the subjects had been involved in competitive gymnastics in Australia, either in the levels (non-elite) or elite (international) program, and had discontinued their participation in competitive gymnastics for a period greater than one year, but less than three years. The sample of 37 former gymnasts consisted of 11 gymnasts who had represented at club level, 6 at regional level, 17 at state level, and three at international level.

Participation and attrition

Data collection.

The data collection instruments which were used in this study were two questionnaires measuring participation and attrition motives, used in Klint & Weiss' (1986) study, and a demographic questionnaire designed by the researcher, which recorded information regarding the former gymnast's age, length of gymnastic career, standard achieved, time spent training each week, current involvement in gymnastics, and current involvement in any other sport program. The two participation/ attrition questionnaires contained 30 statements which were assigned a grading of 1-5, on a Likert scale.

RESULTS

The profiles of the former competitive gymnasts as obtained from the demographic questionnaire indicate that the former gymnasts commenced their participation in gymnastics at an average age of 7.7 years ($SD= 2.60$), and continued for between 1 and 14 years, with the average length of time spent competing being 5 years ($SD= 3.23$). The age at which the competitive gymnasts discontinued their participation ranged between 6 and 21 years, with an average of 13.9 years ($SD= 3.28$). The amount of time on average spent at training sessions per week was 11.4 hours ($SD= 9.8$), however some gymnasts only spent one hour a week training, while others spent 36, depending on the gymnast's age and level of competition.

Motive 1 (I liked to have fun), on the participation motivation questionnaire was most frequently nominated by the respondents (51.35%) as being "extremely important" for participation. This was followed by "I wanted to learn new skills", "I liked a challenge", and "I wanted to go to a higher level". "I wanted to be popular", was most frequently nominated by the former gymnasts (70.27%) as being "Not important at all" for participation. "I wanted to be popular" and "I wanted to release tension" were regarded by none of the respondents to be "extremely important" for participation.

A descriptive analysis of the attrition motives ranked by the respondents, resulted in the motive "I was too old", being most frequently nominated (21.62%) by the former gymnasts, as being an "extremely important" reason for discontinuing participation. This was followed by the motive "I

Participation and attrition

was injured". "I did not like being on the team" and "There was no team work" were most frequently nominated by the former gymnasts (86.49%), as being "not important at all", when considering their reasons for discontinuing participation.

The thirty motives for participation were clustered into 9 factors which accounted for 81.2% of the total variance. These 9 factors were named Challenge, Team Affiliation, Aspects of Competition, Fitness, Action, Situational, Parental Pressure, Social Recognition and Achievement Status. The first factor; Challenge, accounted for 27.7% of the total explained variance in the study.

A significant relationship ($p < 0.05$) was found between four of the motives for participation and attrition. The motives "I liked competing"/ "I did not like to compete", "I liked to meet new friends"/ "Did not meet new friends", "I liked to get out of the house"/ "Did not participate/ compete enough", and "I liked to travel"/ "Did not travel enough", all recorded a significant relationship between the gymnasts motive for participation and motive for attrition. The remaining 26 motives recorded no significant relationship between the motives for participation and attrition.

Analysis of the demographic data provided by the former gymnasts indicated that 29.7% of the respondents, were no longer involved in gymnastics in any role. The most popular role of involvement in gymnastics upon retirement, for the former gymnasts, was that of coaching and judging (40.5%). Of the 37 former gymnasts participating in the study, 37.8% no longer had involvement in any sport program as a participant, other than their sport classes at school. The remaining 62.2% were involved in a wide range of sports, from club representation to state level. The most favored sport of the respondents was athletics, which 37.8% of the former gymnasts participated in.

Eight additional participation motives were supplied by the former gymnasts in the open ended response, as to why they began participating in gymnastics. These included to lose weight, change of sport, inexpensive at the particular gym, it was an individual sport, to overcome fear, to do a hobby, and because it looks good. The 21 additional attrition motives obtained from the open ended responses were clustered into the 5 categories of; Physical Limitations, Coaching Problems, Other Commitments, Leave on top, and Loss of interest.

DISCUSSION AND CONCLUSION

The results of this study show that "having fun", "learning new skills", and being "a challenge" were the three most important motives for participation, as reported by the former gymnasts. This supported the research of Robertson (1982), Johns (1985), and Klint & Weiss (1986). Fun is a broad motive, encompassing several of the other motives in the study. Gymnastics could be considered to be "fun" by a gymnast if she is learning new skills, or if she has the opportunity to travel around the country or overseas. The reasons for participation which make gymnastics "fun", will vary from gymnast to gymnast, depending on the interests and objectives of the gymnast in regards to competing and /or participating in gymnastics.

The results of the factor analysis showed that the 30 participation motives were clustered into nine factors. These nine factors, in order of amount of variance explained (highest to lowest), were Challenge, Team atmosphere/ affiliation, Competition, Fitness, Action, Situational, Social, Parental Pressure, and Achievement status. These results are supported by those of Klint & Weiss (1986) who report on seven of the nine factors found in this study, and are similar to those of Gill, Gross & Huddleston (1983), Gould, Feltz & Weiss (1985) and Brodtkin & Weiss (1990).

The motives for attrition from gymnastics identified through the questionnaire responses, supported the hypothesis that the motives for attrition from gymnastics were related to loss of motivation due to injury, time commitment, pressure, conflict with coach or other gymnasts, and other factors associated with the sport program, with the exception of time commitment. This was due to the absence of a time commitment motive in the questionnaire. The three main motives for attrition from gymnastics identified in this study were found to be age, pressure, and injury. These are similar to those reported by Klint & Weiss (1986), with the exception of age, which was an additional motive identified in the current study.

The mean value obtained for the motive "I was too old", indicated that the majority of subjects were undecided as to whether they were "too old". Being "too old" will vary depending upon the level of competition the gymnast is at, and the program of competition she is in (ie. elite or levels program). The sub-junior/elite program requires gymnasts to be participating in this

Participation and attrition

program by the time she is 7-8 years. If a gymnast is not competing in this program by this age, she is considered to be too old, and will have to compete in the levels program.

The second purpose of the study was to investigate the relationship between the reasons for participation and attrition. A significant relationship ($p < 0.05$) was recorded between four of the motives for participation and attrition. The motives which recorded a significant relationship between participation and attrition were the motives of competing, meeting new friends, getting out of the house, and travelling. The participation motives considered by the former gymnasts to have been most important for participation were fun, learn new skills and challenge. These were not related to those motives provided by the former gymnasts as being most important influences for their attrition from the sport. The motives listed as most important for attrition were age, pressure and injury.

An indirect relationship between the major motives for participation and attrition does exist. The participation motive of Fun may be related to the attrition motive of too much pressure, and therefore, it could be said that the motive for participation (fun) is related to the motive for attrition (pressure). This relationship may also occur between the participation motive of learning new skills and the attrition motive of being too old (increased physical development). As a gymnast becomes older and physically develops, the learning of new skills becomes more difficult due to her increased height and percentage body fat.

It can be concluded from the data obtained from the two parallel motivation questionnaires that the motives for participation and attrition of the former gymnasts are varied, and are affected by the gymnastics program, and coaches at the gymnastic club. The results obtained from the descriptive analysis ranking fun, skill acquisition, and challenge as the major motives for participation can be generalised across other clubs, as these motives for participation are the reasons why the gymnast began participating in gymnastics, and therefore they are not affected by individual club programs. However, the motives for attrition may not be generalised to other clubs, as these are related to the specific gymnastics program of the club. The three main motives for attrition, of age, injury and pressure, are related to individual program and coaching deficiencies or problems, which may not apply to other clubs.

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GENDER AND MOTIVES FOR PARTICIPATION IN SPORT AND EXERCISE

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Key words: exercise, gender, martial arts, participation motivation, physical activity, sport

INTRODUCTION

To promote involvement in physical activity, it is necessary for us to understand the factors which motivate people to participate in sport, exercise and other types of physical activity. Past research has shown that the reasons people give for their participation can vary with age, gender and the nature of the activity (e.g., Brodtkin & Weiss, 1990; Han & Morris, 1991; Longhurst & Spink, 1987). This paper reports on gender aspects of a large, questionnaire-based study of motives for participation in a range of organised physical activities.

One fruitful approach to the study of participation motivation has been to ask physical activity participants to respond to questionnaires which list a range of motives for involvement. The Participation Motivation Questionnaire (PMQ) developed by Gill, Gross and Huddleston (1983), and a variety of modified forms of it, has been used for much of this research. Gill et al. designed 37 items by reviewing youth sport participation literature and interviewing 750 adults about their participation in youth sport. These 37 items were then pilot tested on a group of 51 male and female youth soccer players. Following the trial, items were modified and some were dropped to produce a 30 item questionnaire. Gill et al. used the questionnaire to examine participation motives in 1138 male and female athletes, aged between 8 and 18 years, who were participating in summer sports schools in the USA. The most important reasons for sport participation were found to be to improve skills, have fun, learn new skills, meet a challenge, and be physically fit. Factor analysis identified eight factors underlying the PMQ, namely achievement/status, team orientation, fitness, energy release, skill development, affiliation, fun and a miscellaneous factor. Although subjects were gathered from a range of sports, analysis was reported only for the sample as a whole; thus, any differences in motives of participants in different sports is unknown.

While Gill et al. considered a range of youth sport activities, several studies have focused on one sport. Gould, Feltz and Weiss (1985) examined the motives of 365 youth swimmers, aged 8-19, on a slightly modified version of the PMQ. The major motives and the factor structure they derived were similar to those of Gill et al. The sample was well balanced in terms of gender (F=190; M=175). Analysing the ranks of mean ratings for seven subscale factor scores and seven items which did not load on factors, Gould et al. reported that females rated fitness,

friendship, something to do and fun higher than males. In their investigation of 67 youth gymnasts, Klint and Weiss (1986) found that a modified version of the PMQ produced a similar factor structure. Although their sample was small, it did include both genders (F=40; M=27), but Klint and Weiss did not report an analysis of responses by gender. Brodtkin and Weiss (1990) again considered swimming, administering a modified PMQ to 100 subjects. Although both genders were represented (F=62; M=38), the emphasis of this study was age differences. It was the first to adopt a lifespan approach, with subjects aged 6 to 74 years. No analysis by gender was reported, but age related differences in competition, social status, health, fitness and fun motives did emerge.

Focusing on an Australian sample, a different sport, namely table tennis, and applying the lifespan perspective, Morris, Power and Pappalardo (1993) derived a factor structure similar to that generated in the American studies. In a sample of 333 players aged 10 to over 60, the most notable age difference was the progressive increase in rank of health and fitness items with age, particularly for the 40 to 59 and the 60 and over age groups, giving support to Brodtkin and Weiss (1990). Morris et al. also found gender differences in their sample which was predominantly male (F=91; M=242). These appeared to be consistent with traditional gender roles, such that females ranked cooperation and affiliation items higher than males, who placed more emphasis on winning and competition. The version of the PMQ used in this study was modified from a study by Han and Morris (1991), which also adopted a lifespan approach, but differs from the studies reported here in two respects. First, it examined a non-competitive, exercise activity, Tai Chi. Second, it considered motives for initiation rather than participation, accessing all the novices in a Tai Chi school in Melbourne, during their first ever session. There were 25 classes, making a sample of 298, in which females predominated (F=213; M=85). The factor analysis in this study indicated that broadly the same motives were important for initiation as for continuation, but that activity specific motives also exist. The eleven factor solution included seven factors consistent with previous research and four new factors, which emerged from items generated in pilot work. Items relating to the beauty and grace of the activity, the gentle movements involved, exercising the mind and body together, mental relaxation and increasing energy combined in factors identified as referring to aesthetic, philosophical, and relaxation motives. The high ranking motives for initiation in Tai Chi included several of the aesthetic items, but also reflected the typical fun, fitness, skill and challenge motives. There was further support for the increasing importance of health and fitness with age. Females were more interested than males in becoming physically fit and in getting more energy. Males were more concerned with exercising the mind and body together than females. Males also rated going to a high level more highly than females. This study suggested the need to compare participation motives not only in different activities, but also in different types of activity.

In an earlier Australian study, Longhurst and Spink (1987) did consider different sports. They examined participation motives of 404 children (F=217; M=187) aged 8 to 18 in Melbourne sports clubs for athletics, cricket, Australian Rules football, and netball. The highest ranking items were similar to other studies. Using a more stringent criterion for factor extraction, they only derived four factors, which were achievement/team, situational, status, and fitness. Few differences emerged between sports, but Longhurst and Spink did find that swimmers differed from the other sports, assigning less importance to fun and being with friends. Swimmers also rated excitement as less important than netball and little athletics participants. Unfortunately, it seems that the four sports were chosen because of their cultural prominence, rather than to represent recognisable categories. Longhurst and Spink also found gender differences, in that girls placed more emphasis on learning skills than did boys, while boys rated physical fitness higher than girls.

There are a number of problems with the research to date. First, several of the studies used relatively small samples (e.g., Brodtkin & Weiss, (1990) - 100; Klint & Weiss, (1986) - 67). This is particularly relevant because most studies performed factor analyses on a 30 item questionnaire. Second single sport studies cannot easily be generalised to other activities, especially those which have very different structures and subcultures. Gill et al. (1983) did consider a range of sports, but failed to report comparisons. Longhurst and Spink (1987) compared an idiosyncratic selection of four sports. Other sampling problems are also evident. Gill et al. chose voluntary sports camps to collect their data, so their finding that learning new skills and improving skills were predominant motives is not surprising. Brodtkin and Weiss (1990) found that their oldest group were more interested in health and fitness and less in competition, but those participants came from a recreational swimming group, while participants in all the other age groups were competitive swimmers. The study by Han and Morris (1991) considered initiation rather than continuation and modified the PMQ more than any other study, using a range of items developed in pilot work in Tai Chi. Morris et al. (1993) retained most of the modifications in their single competitive sport study of table tennis.

Despite these methodological problems, the body of research using versions of the PMQ is suggestive. First, it appears that there might be a relatively small number of universal motives for participation in physical activity, while there are also motives specific to type of activity. Second, it seems likely that there are variations with age and gender. Also, the variations in the most important motives between studies of different activities suggest that it is important to widen the range of physical activities. The present study took these issues into account in its aim to examine participation motives in a range of sports, exercise activities and martial

Gender and Participation Motivation

arts, using a lifespan perspective and considering gender differences in major reasons for involvement. This paper focuses on the results of the gender analyses, first describing the general results, so that gender differences can be placed in context.

METHOD AND PROCEDURE

Sample

Activities were selected to be representative of different aspects of physical activity. Acceptable sample sizes were obtained for 14 activities.

TABLE 1. Age and Gender Numbers in Each Sport Sampled (N=2,601).

Sport	Gender		Age (years)							Total
	Males	Female	6-9	10-14	15-18	19-22	23-39	40-59	60+	
Tennis	80	76	1	44	21	19	49	14	8	156
Table Tennis	150	36		5	10	16	73	72	10	186
Squash	94	78			12	20	92	47	1	172
Swimming	73	87	1	3	10	7	69	55	15	160
Gymnastics	25	130	48	92	8	4	3			155
Lacrosse	87	123	7	49	48	27	72	6	1	210
Volleyball	97	95		6	50	47	78	11		192
Basketball	90	89	2	44	66	15	49	4		179
Netball	27	178		12	64	46	80	3		205
Weight Train	91	71		1	20	42	77	19	3	162
Aerobics	27	231		3	38	97	91	28	2	259
Tai Chi	70	138		1		6	70	88	43	208
Karate	140	57	19	30	27	35	72	14		197
Tai Kwon Do	113	48	15	40	33	23	34	16		161
	1164	1437	93	330	407	404	909	377	83	2601

Team sports (distinguished by affiliation) were basketball, lacrosse, netball, and volleyball; individual sports (distinguished by gross body movement) were gymnastics and swimming; racquet sports (distinguished by manipulation of an object) were squash, table tennis, and tennis; exercise activities (distinguished by their non-competitive health and fitness focus) were aerobics and weight training; and martial arts (distinguished by their non-competitive, aesthetic and philosophical nature) were karate, Tai Chi, and Tae Kwon Do. A total of 2,601

Gender and Participation Motivation

participants (Female=1437; Male=1164) completed the study. Distribution within sport by age and gender is presented in Table 1. Aerobics (89.5%), gymnastics (83.9%), and netball (86.8%) had predominantly female participants, while the Tai Chi sample was 66.3% female. Several activities were predominantly male, namely karate (71%), table tennis (80.6%), and Tae Kwon Do (70.2%). Other activities were approximately evenly distributed for gender. It was also noticeable that 34.9% of participants were between 23 and 39 years old, while only 3.6% and 3.2% of the sample fell in the youngest (6 to 9 years) and the oldest (60 years and over) categories respectively. For specific sports, deviations from the general pattern occurred for gymnastics, where participants were much younger, and for Tai Chi, where participants were older than in other activities.

Measures

A single instrument explained the purpose of the study, collected demographic information and then presented PMQ items. First, participants were presented with a brief letter describing the nature of the study. Then they had to tick their sport (the one they were involved in when sampled) in a list. Next, and on the second page, they were asked to classify themselves in terms of gender, age, length of participation, level of participation and number of other sports played regularly. On pages three and four, a 50 item, modified version of the PMQ was then presented with standard instructions. This questionnaire included all the items generated in the Tai Chi research, along with all the original items. It also included six new items, which were generated by a focus group exercise, involving six people with expertise in sport and exercise and familiar with the PMQ and research on participation motivation. The new items related to after game social activities (item 51), improving appearance (52), action packed sport (53), sports involving males and females (54), the setting/environment (55), and the scheduling (56). Each item gave a reason for participation in that sport. Participants rated each item on a five-point Likert scale (1="not at all important" to 5="extremely important").

Procedures

Access to all participants was gained through application to sports' governing bodies. The manner of contacting participants varied, but typically they were met in groups by a member of the research team, the nature of the study was explained, and they were informed that their involvement would be voluntary, anonymous and confidential. Some people approached in this way did opt not to participate, while others took a questionnaire away and never returned it. Return of a completed questionnaire was, thus, deemed to signify informed consent.

Gender and Participation Motivation

Researchers answered any questions. Very few returned questionnaires had to be discarded because of faulty completion, indicating that most people understood the instructions. To minimise wastage, where possible, the researcher stayed at the venue to collect completed questionnaires. There was a message of appreciation at the end of the questionnaire and the researcher always thanked participants verbally, when copies were returned direct.

RESULTS

Descriptive analyses were carried out first and mean ratings for each item on the PMQ were then ranked to determine the most important motives for sports, and genders. A factor analysis was conducted for the whole sample. Finally, discriminant function analyses were executed. Relationships of demographic variables to gender are summarised here.

Demographic Variables

Duration of Involvement. For the sample, more than 70% of participants had been involved in that activity for more than three years. Gymnastics, with its much younger subjects peaked in the three to five year category. Tai Chi had a larger number of beginners than other activities and the exercise activities and martial arts generally showed shorter durations than the competitive sports. Considering duration of involvement for gender, differences were not marked, although it appeared that males had been participating longer than females, with nearly 52% of males having been involved for more than five years, whereas only 43% of females had been involved for this length of time.

Participation standard. Most of the activities in the sample showed a good spread of standard of participation. Swimming (44%) and volleyball (43.2%) had high proportions at the state/national levels, whereas the exercise activities and Tai Chi, which were non-competitive, had very few participants at this level, but substantial numbers who considered that they participated at intermediate club or high club standard. There was very little difference between the levels at which females and males participated, with 53.3% of males and 57.6% of females participating at low or intermediate club level.

Other physical activities. More than 86% of the participants were regularly involved in no more than two other activities, with more than a third (35.9%) of the sample having no other

Gender and Participation Motivation

regular involvement in physical activity. The most extreme example was Tai Chi, where well over half those questioned (54.3%) indicated that Tai Chi was their only formal physical activity. Table tennis (39.8%), swimming (40.6%), gymnastics (42.6%) and basketball (42.3%) also showed high proportions participating only in that activity. It appeared that males were more likely to be involved in three or more other activities (16.7%) than females (11.4%).

Some caution needs to be adopted in comparing motives for the activities studied here, as it is apparent that samples in some activities are more experienced, dedicated, and operating at a higher level than those in other activities. Differences in age and gender balance between sports also need to be taken into account when interpreting variations in patterns of motives. The results indicating that males had participated in the present activity longer than females and that they participated regularly in more additional activities than females, together suggest that they undertake more physical activities than females. On the whole, however, differences between genders in length and level of involvement in this activity and participation in other activities were limited in nature.

Ranking of Most Important Motives

For the sample and for each gender for the whole sample, the ranks for the ten most important reasons for participation are presented in Table 2. Considering the sample as a whole, health and fitness related items rank highly. Fun, challenge, and skill learning and improvement are also highly ranked. The ranks for females and males were very similar. Males ranked challenge second, whereas females ranked it sixth. Females ranked getting more energy seventh and males ranked it eleventh. Only flexibility appeared in the ten highest ranking items for females, at the tenth rank, when it was outside this list for males, but it was still ranked as high as thirteenth. Similarly, go to a high level was ranked tenth for males and it was ranked seventeenth for females. All the other top ten ranked items were within two ranks of each other in the female and male rank orders. Outside the top ten, one or two patterns from previous research were reflected in the present data. The item concerned with winning ranked much lower in this research than in those studies, but six activities in this study were non-competitive and this would lower the ranking of items like win and compete. Nonetheless, comparing males and females the win item ranked sixteenth for males and thirtieth for females. The affiliative items, do group/team work, team spirit/group atmosphere, and be in a group were ranked twelfth, thirteenth and fifteenth for females and seventeenth, eighteenth and nineteenth by males.

Gender and Participation Motivation

TABLE 2. Most Important Motives Ranked by Mean Rating for the Whole Sample (N=2,601) and for Females (N=1437) and Males (N=1164)

Item No	Item Wording	Rank		
		Total	Females	Males
46	I like to keep healthy	1	1	1
9	I like to have fun	2	2	3
12	I want to stay in shape	3	3	4
7	I like to exercise	4.5	4	6
29	I like the challenge	4.5	6	2
36	I want to improve my skills	6	5	5
41	I want to learn new skills	7	8	8
42	I like the action	8	9	7
13	I want to get more energy	9	7	11
31	I like to do something I am good at	10	11	9
38	I want to improve my flexibility		10	13

Discriminant function analysis did differentiate between genders. The strongest correlations associated with males were for the items, to be popular (-.31), to win (-.29), to compete (-.29), like action packed (-.23), to gain status (-.20), and to feel important (-.20). The highest correlations for females were for the items, to keep healthy (+.26), to do something that is not competitive (+.26), and to improve my appearance (+.19).

Factor Analysis

A maximum likelihood exploratory factor analysis with a varimax rotation revealed a nine factor solution, based on eigenvalues. The scree test suggested a similar cut-off point, although the first three factors accounted for a large proportion of the variance. The factors were clear to interpret, representing aesthetic and philosophical aspects of physical activity (factor 1), status, recognition and approval (factor 2), aspects of skill and the activity (factor 3), competition and challenge (factor 4), health and fitness (factor 5), affiliation and social

aspects (factor 6), contextual aspects of the activity (factor 7), fun (factor 8), and stimulating aspects of the activity (factor 9).

Discussion and Conclusions

For the sample, results were similar to previous research, with the main exception that health and fitness items play an even stronger role (that is, they occupied more of the high ranks) than in those other studies, aside from the Han and Morris (1991) investigation of non-competitive Tai Chi. Health and fitness was a high ranked motive in most other studies, while fun, challenge, and skill learning and improvement have consistently appeared as important motives. These might be considered to represent the primary universal motives for participation in physical activity.

Analysis of the present results by gender replicated some findings from previous work, but with a much larger sample. First, it was noted that males were more interested in challenge, going to a high level, and winning than females. Small differences in rankings were found, with females ranking the following items higher, getting more energy, improving flexibility, and the three affiliative factors. The males had been participating a little longer and were involved in a larger number of other activities, but neither of these differences was large enough to systematically influence the importance rankings. On the whole, the patterns were very similar for females and males, suggesting that the search for gender differences is likely to mislead, highlighting a few small differences in a sphere where motivational similarities between genders predominate.

The factor structure of the present data is consistent with previous research. Six major factors are now well established, namely approval, skills, competition, health and fitness, affiliation, and fun (Brodkin & Weiss, 1990; Gill et al., 1983; Gould et al., 1985; Morris et al., 1993). Consistent with the previous studies using the extended PMQ with items generated for the Tai Chi study, an aesthetic/philosophical factor emerged here (Han & Morris, 1991; Morris et al., 1993). The contextual factor (factor 7) and the stimulation factor (factor 9) emerged largely from items generated in the focus group, where it was pointed out that aspects of the environment in which the activity takes place might be important motives. This study further supported the PMQ as a useful device for addressing general issues associated with participation motivation. Greater insight will be derived from studies which go on to investigate the inter-relationships among these motives in depth, using interview and observational techniques.

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GENDER DIFFERENCES IN LEARNING BASKETBALL

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INTRODUCTION

Research conducted by Davis (1986) concludes that males possess a better physical condition than females, principally at the beginning of the 5^o year in high school, when the children begin to have Physical Education with a specialist teacher.

These capacities for physical development capacities probably give the male a better aptitude consequently giving higher sporting performances, showing specific abilities (Baur, 1988; Jacob, 1991 e Konzag, 1991), than female.

Nevertheless Baur (1988) affirms that children of both sexes between ten and twelve years old, have a greater potential for learning. This is an important factor in giving females a similar aptitude for learning to males, despite males being more active in daily activities.

Based on the development of these daily activities, Jacob (1991) cites that males have better coordinative capacity which can benefit development of specific skills shooting, dribbling and passing in basketball.

The purpose of this study was to determine if gender differences exist in the learning of basketball.

METHODS

Two test were administered at the beginning and at the end of the experimental work. The AAHPERD Basketball Test to ascertain the level of children in basketball fundamentals (shooting, passing and dribbling) and Test Game to ascertain the capacities of children to play the game using correctly the basketball fundamentals learned in experimental work.

Subjects

All of the subjects were enrolled at the only high school that delivered a movement education program involving basketball teaching. They were formed into two mixed groups with 26 female and 35 male.

Procedure

The AAHPERD Basketball Test and Basketball Test Game were administered at the beginning of research, when five classes were given. Then another sixteen classes were given to complete twenty one, when the classes were over, the tests were administered again in both groups.

The experimental work, was composed of 21 basketball lessons and were given to two mixed groups, male and female, in the same condition, three classes per week, over three months.

Data was used comparing males and females to ascertain gender differences in learning basketball, and Statistical test was used ("t" Test) to determine possible differences.

RESULTS AND DISCUSSION

As a result of gross differences in sample size and variance among groups,

statistical analysis was made comparing genders when learning basketball.

The first comparison was in the pre-test of basketball fundamentals (shooting passing and dribbling) outside the game play situation, this showed us that males show a significant difference ($p < 0,01$) when compared with females. In this part of the test, the shooting that scored points was made separated from the shooting that touched the superior board of the basket without scoring points.

in booth cases, males had a significant differences ($p < 0,01$) when compared whit females (shooting that scored points, $4,23 > 1,92$; shooting thattouched the superior board of the basket without scoring points, $5,17 > 2,25$). The total shooting points scored by males was more significant ($p < 0,01$) than females ($9,40 > 3,46$).

The same occurred whit the passing and dribbling basketball fundamentals with a significant difference for males ($28,14 > 21,96$; $27,68 < 37,99$)

Comparision of the post-test showed that significant levels ($p < 0,01$) were the same for shooting, passing and dribbling basketball fundamentals (shooting that scored points, $6,40 > 2,15$; shooting that touched the superior board of the basket with scoring points, $5,17 > 2,46$; total shooting points, $12,11 > 4,61$; passing, $29,77 > 24,23$; dribbling, $25,31 < 30,26$; table 1)

Despite the fact that males gave a significant performance in both the pre-test and post-test in basketball fundamentals, the improvement observed during the experimental work between these two tests was not significant. Famales gave a good performance when learning basketball and showed a better improvement in some basketball fundamentals, with less difference in post-teste comparing at pre-test difference (shooting, $3,23 < 3,36$; passing, $5,54 < 6,18$; dribbling, $4,95 < 10,31$).

Table 1. Results of AAHPERD Basketball Tests

Fundamentals	Pre-test		Post-test	
	Male	Female	Male	Female
Shooting	18,40* * (2,23)	15,04 (2,66)	18,77* * (2,95)	15,54 (2,41)
Points	4,23* * (3,39)	1,92 (2,55)	6,40* * (5,26)	2,15 (2,71)
In basket	5,17* * (3,92)	2,25 (2,69)	5,71* * (3,67)	2,46 (3,14)
Total	9,40* * (6,42)	3,46 (4,69)	12,11** (7,61)	4,61 (5,56)
Passing	28,14* * (4,51)	21,96 (4,40)	29,77** (4,24)	24,23 (3,94)
Dribbling	27,68* * (4,01)	37,99 (8,84)	25,31** (3,17)	30,26 (4,08)

*P<0,01

The results showed us that in the basketball fundamentals test females gave a better performances than males, and the initial motor condition that males presented didn't represent a better aptitude for learning (table 2).

Table 2. Difference in results between post-test and pre-test

\ Gender	Male	Female
Tests\		
Shooting	0,37 (2,25)	0,11 (1,99)
Points	2,17* (4,40)	0,61 (2,57)
In basket	0,54 (4,15)	0,54 (2,16)
Total	2,71 (6,32)	1,15 (3,82)
Passing	1,63 (4,56)	2,27 (3,89)
Dribbling	2,37 (2,24)	7,73* * (6,29)

* p<0,05 * * p<0,01

In the Basketball test Game, the ball advantage with points scored by each team against the other, during the game, was virtually the same between male and female.

The significant result of the basketball fundamentals (shooting, passing and dribbling) outside the game, that males showed in the pre-test wasn't sufficient to produce a significant difference when they played the basketball game (table 3).

Table 3. Basketball Test Game results

Fundamentals	Pre-test		Post-test	
	Male	Female	Male	Female
Shooting	6,00 (2,98)	4,25 (3,15)	8,25 (1,39)	6,62 (2,39)
Points	0,75 (0,71)	1,25 (1,39)	4,12 (1,25)	1,62 (0,92)
In basket	2,12 (1,73)	0,87 (0,35)	1,00 (0,76)	1,37 (1,68)
Direction basket	3,37 (2,59)	2,12 (1,81)	3,12 (1,13)	3,62 (1,30)
Rule violation	14,00 (4,66)	11,37 (2,67)	4,50 (2,00)	6,87 (2,10)

For Bento (1984) it is necessary for the child to perform the fundamentals of basketball well to acquire competence to play the game too well. This fact really didn't occur because female had no good competence as well as male and during the teaching basketball showed better results than male.

Because throughout the experimental work females were not as competent in the execution of the fundamentals outside the game. Yet they produced better final results then the males (though not significant).

This situation was defended by Casbon(1991), Bortoli and Robazza (1991), because they consider the necessity of a transitional time between the basketball fundamentals learned and executed outside the game and these fundamentals executed during the game.

This necessit is confirmed by Thorpe (1990), Read and Davis (1990) when the

children don't have any game experience and can't understand why rules are necessary and why they showed work with other children they can't solve the problems posed by the game.

So in the Basketball Test Game, females showed that they had a greater aptitude for learning basketball than males. The difference observed in the pre-test was less than the pos-test with some fundamentals (shooting during the game $3,37 > 2,25$; points scored $0,50 > 0,25$) and balls shoot in the direction of the basket without reaching the boarder net, is significant larger ($1,50 > -0,25$).

However this significant difference in balls that didn't reach the basket was because the females arm strenght enabling them to shoot the ball, was weaker than males, who could shoot a long distance to the basket more frequently (table 4)

Table 4. Difference in results of the Basketball Teste Game

Fundamentals	Post-test		Difference	
	Male	Female	Male	Female
Shooting	8,25 (1,39)	6,62 (2,39)	2,25 (2,71)	2,37 (2,72)
Points	4,12 (1,25)	1,62 (0,92)	0,25 (0,89)	0,50 (1,60)
In Basket	1,00 (0,76)	1,37 (1,68)	2,00 (1,15)	0,37 (1,68)
Direction Basket	3,12 (1,13)	3,62 (1,30)	-0,25 (2,76)	1,50 (2,00)
Rule Violation	4,50 (2,00)	6,87 (2,10)	9,50 (4,99)	4,50 (3,42)

According to Manno (1982) and Hebbelinck (1991) males have greater power when shooting than females. This fact is proved ins these groups with a test of hockey ball shooting, when the male group showed a significant difference ($p < 0,01$) compared with a female group ($22,17 > 13,39$).

However Jacobs' (1991) theory is confirmed in this research, because males have a significant difference in points scored outside the game situation ($2,17 > 0,61$ - $p < 0,01$), but they are playing the difference isn't significant ($0,25 < 0,50$).

Perhaps this fact can be explained by Falguieres' (1991) theory. In every game situation there are a great number of actions and several other necessary capacities, not only basketball fundamentals (shooting, passing and dribbling). Hasler (1991) cites that in the game situation a child's necessity to comprehend the rules of the game, a good relationship with partners, develop motor capacities and intelligence to use their physical potential at the right moment.

CONCLUSION

There is no doubt that males have a better motor condition to execute the basketball fundamentals and to play the game, than females. However this condition doesn't give males the capacity to learn better basketball, when the Physical Education class is mixed. At the end existent difference between the sexes become less than at the beginning of the teaching.

So in this research females showed a better aptitude for learning, with difference in the results, decrease in the pos-test.

The results of this research make it possible to conclude that females learning potential is as relevant as that of males, when the teacher give the same attention to both sexes.

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WHY CAN'T GIRLS PLAY AS WELL AS BOYS? A STUDY ABOUT SEX ROLE IMPLICATIONS INTO MOTOR DEVELOPMENT

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INTRODUCTION.

"(...) Why, a crying boy? ...looks like a girl!
 "(...) Never seen a girl behave this way. That's no fashion for girl! (...) looks like a boy (popular way of speaking)

Different cultures want their males and females to play specific roles within society. Thus, even before being given birth, boys and girls have their lives outlined according to their parents' expectations, which vary from sex to sex. The child grows out of this setting to behave according to the cultural and historic standards under which she or he is brought up. Since an early age, parents bend on needlepointing to them which sexual behavior they should fit in. The sexual role the child is to play will be punished or reinforced according to the culture and social context he/she is into. The determination and maintenance of the sexual behavior for men and women spawn and keep on the existing inequalities within society usually the woman being the one who has to pay for the losses for taking up a lower value role.

Similarly, the expectations, opinions, perceptions and impressions that teachers nurture toward children at school add up to yield future effects on their lives. Such expectations as well as the upcoming sexual roles were depicted and criticized by Brow back in the 1960's (Brown apud Mischel, 1975). See the following chart.

TRUE BOYS

- *Climb trees
- *treat girls with contempt
- *get their knees dirty
- *play soldier
- *like the colour blue

TRUE GIRLS

- *dress dolls up
- *jump rope
- *play hopscotch
- *play making food
- *like the colour pink

AT SCHOOL

- *prefer handicraft
- *like gymnastics
- *enjoy arithmetics better

- *like acting
- *like studying English
- *enjoy music better

AT UNIVERSITY

- *smoke pipe
- *drink beer
- *major in engineering or physics

- *chew gums
- *drink soft drinks
- *major in fine arts

IN ADULT LIFE

- *became real men who play poker
- *go hunting
- *drink brandy and die at war

- *become feminine women
- * like children
- *drink tea and let themselves go pining away

Although such critics date from thirty years ago, still nowadays specific behaviour patterns are expected for both sexes. These differences are and perpetuate because they are deep seated in every social level and equally found either in the physical education teachers' expectations or in his/her praxis and it eventually determines the boys' better motor performance than the girls' one.

SEX ROLE AND SOCIALIZATION

"Women have one single duty which is that of crowning the winner with a flower crown, like in Ancient Greece (COUBERTIN, Revue Olympique apud KLAFFS & LYON, 1981).

Several behaviour patterns become sexually typified and acquire different values and meanings for boys and girls during socialization. That happens because when a child is born they convey a large array of behavior patterns to come. It's from this point of view that sexually typified behavior patterns may be defined as "those least expected and sanctioned when carried out by a sex and, conversely, are considered more suitable when performed by the other sex" (MISCHEL, op. cit. p. 3).

The social "training" is different for each sex and the adult person assesses the most suitable behavior standard for themselves as well as for those of either sexes, based on stereotypes of existing sex roles, which condition them to get molded and behave in a socially accepted fashion. Depending on the social environment amid which children grow up boys and girls start to follow different interests in divergent strands of development. As years unfold both men and women might number a range of dichotomies where people could be placed in. The characteristics of personalities one may subscribe to will be those socially accept by their ethic, social or religious group. It's possible to state that a child is born under the socializing training, which begins within family and becomes stern as they grow up and get mature.

The acquisition of the male and female roles becomes strong and important given that most cultures expect their men and women to enact different roles in society. From a very early age on, parents teach their children which is the most suitable behaviour pattern for each sex. Boys are prompted to be independent and rewarded for that, whereas girls are not. Boys as opposed to girls, are frowned upon if they don't conceal their post-defeat sorrow. That's tolerable in

girls - women are supposed to express affections and boys are taught to fight back. Girls, though, may be punished for doing so.

Men are expected to be strong, independent, aggressive, competent, competitive and overpowering. Conversely, women are supposed to be dependent, sensitive affectionate and they should hold their aggressive sexual horses. Tears cannot be a boys token of gloom (for having been defeated) because, as the saying goes, "boys don't cry". That's a girl's behaviour. Affection is rather put up with in women than in men and boys have got to fight back whereas a girl who proceed to do so might get punished.

In the Brazilian society, sex roles are very distinct and determined and it needlepoints what is manish and what is womanish. Being a man or woman is poles apart because sex roles are still designed with severity. Therefore, in terms of behaviour there is a yawning gap between men and women. For example, women do household work, men don't. Crying is a woman's deed, not a man's. The later, soft-hearted and insecure. As to attitudes women should keep a humble receptive social posture before male aggression and dominance. In terms of values, home and children should be on top of their values chart. Men, on the other hand, must look at reality through work outside home.

It's undeniable that contemporary society is still organized for men, not women. This being the case, in the patriarchal culture, essential values such as the supremacy of men are placed on one side, while a woman's inferiority is placed on another side. Thus, it's comprehensible that man's prestige is prohibited to be put at stake. It's convenient to quote Belloti herein, who denounces the sexualization of tasks. She holds that girls make household companions because a man is by no means expected this. They help with household tasks because boys are not supposed to and most of the times are stymied to, and because they're thought of as apt to other goals.

School, as an state's ideological apparatus, is in charge of paving the way to a kind of education which transmits and reinforces culturally stereotyped behaviour patterns, adding up to the reproduction of the gap there is between men and women. Education, even nowadays, still shepherds boys and girls into the roles previously designed for them.

Remarkably, boys and girls behave differently at school and their behaviour may be rewarded or punished, according to the idea the teacher has of what a man or a woman is about. Thus, the dichotomy passive-active echoes on the child's social life.

It's important to recall here that the responsibility to take care of the children, both at home and at school, lies mainly in women's hands. That simplifies for girls the process of identification. When analyzing children, it's easily seen that their attitudes, habits and values are learned firstly from the family and afterwards from groups of equals, where they also learn attitudes towards themselves. If, on one hand, the boy is educated by his family to be obeying in the group of equals he might be overlooked and not behave properly. The situation becomes controversial on a school level, as the teacher expects certain fashions or the boys to be more troublesome than girls.

Noticeably, boys and girls present at school different behaviours patterns, eventually getting rewarded or punished, according to the expectations of a male or female model the teachers devises for each sex. In a set of roles and established values kept by the socializing agents in the form of symbolic and real models,

male and female sex roles which occur within the Brazilian society shape women into being obeying and prejudiced.

The adjectives and labels (for attitudes) which are usually connected to male stereotypes are: competitive, aggressive, selfish independent, dominant, courageous, and capable. For females, though, then appear dependent, accomplished (as housemakers) affectionate, frail, conformist, passive and full of maternal feelings. Still boys even nowadays are socialized for professional activities and girls for marriage. From this traditional view point a man or a woman's body is prepared since their birthdate to independence/dependence, oppression/submission. It's under such sexist rule that society is frequently committed to assess masculinity and femininity.

Both father and mother, as socializing agents, do not promote an equalitarian education for sons and daughters, and when it comes to school things don't seem to be different. Thus, individuals tend to behave under their sex's prescription. Because of a differentiated education the myths of virility and femininity take up an important supporting role in an order of hierarchical differences, there being factors for the formation of each man or woman as well. This process may be felt especially throughout adolescence when girls are ground down for being aggressive, strong and active, where boys are rewarded for the same reasons.

It's common to see adolescent girls refuse to take part in physical education classes at school, because their bodies are prepared and educated for dependence and submission along with the ideal of femininity. During such elaboration and assimilation of the suitable sex role, the teen girl, seething with tattooed signs needs to find patterns of social behaviour which may be accepted by society - Thus, the conflict between sports and patterns of femininity erupt. It's to be questioned the way a girl is charged with requirements, when she is wanted to show a competitive posture at physical education, sports and in other situations in life, given that since her birthdate she's not been prepared or stimulated for such a situation.

It's believed that the teacher's perception somehow influences on their interaction with the students, especially when they use indefinite perceptions of "proper and improper behavior" and take flexible actions towards the students - Thus, for remaining a good deal of their day at school, children receive from their teacher an important share of their developing process. In the school system the teacher who keeps in touch with the child becomes a decisive element in their formation because he or she will be the one who will convey ideas, perceptions and concepts about the suiting or non suiting of their students' behaviour.

WHY CAN'T GIRLS PLAY AS WELL AS BOYS?

"Women are not allowed to go in for any kind of fight, indoor football, beach football, polo, water polo, rugby, weight lifting and baseball"
(Document nº2 - CND'S Deliberations nº 7765
In: CASTELLANI FILHO, 1988)

The history in physical education indicates how prejudiced it has always been, keeping distinct and determined sex roles, characterizing typically male and female roles in the service of a sexist ideology. For example, during the Republic Period when physical education was introduced in schools, the idea of including women was tremendously frowned upon by public opinion, including some parents who even prohibited their daughter to attend physical activities, notwithstanding putting them at risk of flunking. Under a colonial mindset still ruling, bigoted thinking prevented physical education to be looked upon as a productive activity: free white men could not picture themselves bent on physically straining work. A proud family's head did not work, lived off income or someone else's work exploitation instead. Therefore, physical education was of no use to an upper class which discriminated both socially and sexually, as a way of killing free time.

During Estado Novo (1940's), physical education was used as an ideological instrument to the dictatorship and women's participation was barred off from celebrations and parades, because men were in charge of sports. Curious is the fact concerning the acts from the public power which discriminated women's participation in sports. A very clear example was Act 3.199 from April 14, 1941. In article nº54 it read that "sports are incompatible with women's nature and thus the National Council should prescribe the necessary instructions to the sports national entities" (CASTELLANI FILHO, op. cit).

In a nationwide context, women's participation in physical education took place after the opening boom of college majors which aimed at training professionals to start off working at schools. Still, women were limited to catering for a female audience, whereas men could deal with both. This taint of prejudice is to be found even nowadays because this very year a female teacher who'd passed a contest in first place could not fulfill her schedule (consequently her salary was compromised) because the schools psychologist insisted on the necessity of a male teacher to work with the boys. Hence, she who'd been legally successful in a public context, could only cater for girls.

When it comes to schools physical education professionals, it's believed that their goal is turned to global formation of a human being, in a social, political, economic, biologic and psychological perspective of activities which must be the same for everyone. However, in reality, girls and boys are treated differently to perpetuate the sexually family - and - society typified models. To make a comparison, boys are usually free and liberated, play football in the street, climb walls, toss pieces of stones in the air, ride their bikes freely, climb trees and undertake other activities which favour their gross motility development. Such behaviour is a hundred percent approved of by parents, neighbors and friends. Contrarily girls are generally withdrawn or even prohibited to join such games. Being prompted to learn how to sew, paint and help their mothers with their household tasks and develop other typically feminine "activities", they develop, as a consequence fine motility.

The school physical education teacher adopts a dichotomic stance. They claim to accept and stand for an equalitarian education. However when one comes round to analyzing their teaching praxis an attitude which favours the maintenance and reinforcement of behaviour - separatist stereotypes takes over. Such a professional, as an agent of social transformation, reproduces social inequalities, living up stereotypes and expectations of strength, which work as

previews and consequences of behaviors patterns. So, through physical activity, the aggressive-active model for one sex and submissive-passive for the other are kept and reproduced.

Through physical activities one may detect sexual discrimination when boys are prodded into taking activities which require greater gross motility. However girls are not always encouraged to get involved in such activities, just the opposite; being educated into more sociable habits and attitudes, they are driven into activities which demand fine motility.

With different treatment, then there is a differentiated motor performance. So, if on one hand boys, as a result of physical activities, are able to enlarge their motor experiences concerning the time-space relation, on the other hand girls, being educated according to standard of behaviour which reinforces the submission, vanity, dependence and body repression stance, start to develop a smaller possibility of body control as related to the gross motor activities - to make up for it, though, they develop a more accurate fine motility, finer speech and better performance at tasks which rely on small muscles and have lower social prestige.

Such statements are based on the studies which the author carried out along five years' delving into this subject having made 407 in person interviews with physical education teachers from Rio Grande do Sul's official school network. The research sought out to identify the existence of feminine and masculine stereotypes in physical education teachers. The teacher involved should point out their agreeing/disagreeing level when judging students by adjectives. A list of adjectives was chosen as an instrument because such scheme has been one of the most common means of describing stereotypes (ROMERO, 1990) - The list brought 30 adjectives along with a Likert-like point scale which corresponded to five levels of agreement/disagreement. The analyzed figures allowed for some interferences on this theme which help to understand the theme proposed in this article.

Although the issue, the methodology, the analysis and the detailed results are to be found only in the originals, such results can be used to discuss and illustrate the statements herein made.

CHART 1 Adjectives that had or didn't have statistically different answers
attributed to students of male and female sex for the **repliers of both**
sex

Adjectives	Different answer		Equal answer	
agressive	M			
ambitious			X	
active		M		
attractive	F			
authoritarian		M		
capable	M			
wanting			X	
jealous	F			
fellow				X
comprehensive			X	
communicative			X	

brave				X
decided	F			
dedicated			X	
committed	M			
delicate	M			
polite			X	
elegant	F			
sporting	M			
strong (physical)	M			
skillful				X
independent		M		
loyal			X	
leader		M		
macho-man		M		
sweet		F		
realistic			X	
responsible		F		
sensible	F			
vain	F			

Obs. F= female M = Male

By and large, the chart enables us to state that male and female teachers do not share a common opinion when assessing their students through adjectives. Thus there's a stereotype to define the student's profile according to their sex and the teacher's expectations. That's why firstly boys and girls go all the way but as they do so, they tend to stick to the indicated and socially designed paths for each sex.

Given the bibliography review made so far about the topic we're dealing with, and the outcomes of this investigation, one may raise some theme-related assumptions. It's also important to send a warning to the teacher, especially those school ones, to commit to take a pedagogic action to reduce the inequality between sexes.

The above mentioned study unveiled the presence of feminine and masculine stereotypes in the 407 people survey among school teachers in Rio Grande do Sul. In other words, a conclusion was come to which showed that those professionals didn't agree about the adjectives put to them and that confirmed the author's hypothesis. - As one may see from the illustrative chart, the interviewees disagreed upon some adjectives and were of the same opinion as to others. The figures obtained and rendered by preferences in Chart 1 allowed for an idea of the student's profile, according to their sex. Thus, male students considered the following adjectives positively: aggressive, active, capable, home devoted, delicate, sporty, physically strong, independent, leader and sexist. Female students were profiled like follows: attractive, strong-minded, elegant, tender, responsible, sensitive and vain.

Besides, it was possible to claim that the teachers who took part of the research demonstrated to be agents of social transformation when it comes to the equalitarian lookout of their students and pointed out the tendency to adopt a separatist policy at school. It may be concluded that not only school works as a

reproducer of dominant sexist ideology, but the teachers as well, who work straight on the reinforcement of the sexual standards and let the sexes' gap become larger.

Taking for granted that school reinforces the stereotypes through curriculum activities, so it will do through physical activities, because the CV planning of physical education seldom takes place free of sex distinction. The differences between sexes pointed out by the interviewees makes one assume that people usually expect different attitudes from men and women, what makes adults socialize boys and girls in different modes and so the new generation carry on the rule. So boys will always have an advantage over girls in team sports for their gross motility will be better developed. Educated to adapt to the stereotyped feminine standard, girls will be given an expressive role rather than an instrumental one. Limited expectations, as to adult life will ensue. Hampered to bloom both intellectually and physically, girls develop better their fine motility. So they have more possibilities of a greater segmentary muscle dissociation and greater ability to speak. It's no wonder some women account for higher rates of dislexy. Naturally boys have a better motor performance than girls.

As it been said before, most societies are man-orientedly organized. It usually lies on men the authority over legal and moral affairs, being theirs greater value and prestige. The fact that parents and later on teachers hold different views as to their children's and students' sex doesn't add up to the breaking of the so-called role conditioning. Literature has enhanced that school plays a powerful role in a child's social control, and education, environment (?) traditions and habits play an important role in the genesis of the common differences between men and women - that can vary according to how the characters are favoured or hampered.

The boys and girls' difference in school performance can be explained by the different expectations for each sex. The assumption that boys, when showing a vital necessity to produce energy and muscle energy need more active games and girls, for being more passive, require quieter activities may prove true. It's known that boys and girls have remarkably different tastes and that they do not differ very much as to their size until puberty and homeostatic mechanisms are more stable in boys than in girls. Though they don't quite differ in terms of intelligence scores, boys do better in exact sciences whereas girls are at their best at verbal stuff. Girls have an identification model readily available, althou the there's more social pressure for boys being masculine and girls feminine. As the masculine role has grater status it's no wonder boys are better drawn to their own role than girls are to the one designed for them.

For spending a good deal of their day at school, it becomes quite important in their development process. In the school system the teacher keeps a very in - the face contact with children and so becomes a crucial element in their formation. He or she becomes the most important element because he's the one who channels ideas, perception and ready concepts on the behaviour suitability of their students.

Through a practical observation of a teacher one may perceive an insistence on the discrimination of physical activities for each sex. Such a fact leads to an understanding of the reason why women lack motor abilities which demand from the big muscles. These girls, when they reach the fifth elementary year, having been continuously trained by physical education teachers show

inferior motor ability as compared to boys. Some girls can't even toss a ball, bounce it or throw it towards a target. Swerve it might be a merciless sacrifice for a girl and striking deception for the teacher. As to the boys, having been stimulated since early age to go in for every kind of open air activity. when they're up to this school stage, do not show any problem. It's enough for them the basic and specific sport rules.

In its core, physical education looks forward to students living an experience of cherishing physical activities practice as a self-awareness and liberation motto, helping them to get to know their role on earth. So, such role model must necessarily be free of negative stereotypes and avoid a sexual pattern both for boys and girls. That is, physical education must cease to be sexist.

CONCLUSIONS

Concerning the ideas and formulations presented above, it's important that the physical education teacher wake up to the fact that it's no longer possible to remain stuck to a stance which brings on sullen consequences to education as well as social practice. In order to decrease the inequalities between sexes, it seems to be important how to reflect upon physical education as a means of developing students on their whole. It's believed that several myths on femininity stymie the Brazilian woman to break free from the underrated condition they are in. It's high time to put an end to the negatively stereotyped idea to prepare a girl for household tasks, which sprouts within in the family and goes on at school. It's necessary that the father-teacher and mother-teacher endeavour to promote equal opportunities for both for sexes.

As to male and female myths, it's crucial to denounce the tendency boys show to increasingly reflect their self-concept on the image that society regards as suitable to them, such as strength, domination and aggression. So, the physical education teacher, after acknowledging the differences between sexes are remarkably big, will have to stand for a view which prevents this from going on and if possible, trying to find a solution.

The ongoing physical education program ruling at school is not equalitarian and does not give the same opportunities to both sexes. It must be redesigned to help each person to figure out their sex role.

The aggressive behaviours demanded since an early age and repressed in girls, put up with and approved of in boys will not be reinforced in physical education classes. Boys and girls must have equal freedom of movements. It's necessary to formulate the model that some professionals adopt when they vary activities according to sex, since the first school years, thus reinforcing society's concept of masculinity and femininity.

It's believed that it lies in the educators hands the task to focus on the importance of body experience and the training to how use it, through sexism free movements. The physical education teacher is able to contribute to make society diminish the tendency to determine the ideals which most of the times are tremendously commercial.

It's necessary that the physical education teacher acknowledge the origin of certain differences between sexes and doesn't consider biological and cultural factors as an indicator of each sex's performance. Exercise is not an influence-

prone variant of femininity or masculinity, as society tends to determine certain appearance ideals for each sex.

Finally one could say that physical education teachers, as educators, should team up with their workmates to pursue the minimization of the psychological difference between sexes, thus freeing physical education from keeping on service of a sexist ideology. It's given to every educator the responsibility of the roles of performance within society. It's hoped that every individual becomes a complete human being and might take profit out of their potential to build up a better world. So, school as a social institution is the place where ideology draws its systems and for that reason, teachers' position has to fall into a political stance which not seldom is denied by them.

If educators commit to change it's necessary to review the sexist role of school by trying to figure out the way how students are being educated has aided to reinforce and carry on sexual stereotypes. To do so, it's high time to design a pedagogic action plan as an attempt to raise teachers' and parents' awareness of the losses occasionally caused by punishing children's certain behaviour patterns.

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P.2.2. COACH ATHLETES INTERPERSONAL RELATIONSHIP

YOUNG ATHLETES' PERCEPTION OF THEIR COACH'S ACTUAL AND IDEAL BEHAVIOR

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Key Words: sport for children, coach's behavior, sport involvement, burn-out

Sport practice can exert an important influence in the child by promoting physical, psychological, social development, and well-being. Sport represents an instrument to develop positive personality characteristics, such as ability to overcome difficulties, awareness of own capabilities and limits, personal independence, motivation to succeed, interpersonal and cooperative skills. However, these desirable aspects are not achieved automatically, and some fundamental pedagogical principles must be considered and put into practice. Several authors have highlighted how quality of sport experience in young athletes is strongly influenced by their coach, particularly the way he/she interacts with them. For example, Smoll and Smith (1988) recognize the crucial role of a coach-young athlete relationship to induce or prevent competitive stress in youngsters. The coach greatly influences the way athletes perceive own abilities and importance of outcome. Both factors, personal abilities and importance of the outcome, are determinant in perception of competition and in stress response (Martens, Vealey, & Burton, 1990). This is particularly true in children with higher trait-anxiety and low self-esteem. Coaches also have high responsibility for enhancing youth sport participation or, vice-versa, for provoking withdrawal. Among all other factors, boys describe dissent with their coach as a relevant cause for leaving sport (Gould & Petlichkoff, 1988). Investigating how boys perceive their coach's behavior and how they would like it to be, is therefore very important.

THE RESEARCH

Goals

Two main goals of this research were set as follows:

Young athletes' perception of their coach

1. investigate how young athletes perceive behaviors and attitudes of their coach (actual coach) before and during competition, and what behaviors and attitudes they would rather have (ideal coach);
2. examine if there are differences between actual and ideal coach by age, gender, individual or team sport practice.

Subjects

In this work, 332 subjects practicing sport individually or in a team (173 males and 159 females, aged 10 to 14) were involved.

Method and Procedure

Two forms of a questionnaire were prepared for the study listing coach's behavioral aspects before and during the competition. In the first form, subjects were asked to assess their actual coach's behavior. The following set of instructions was given: "Coach's behavior before and during competition is described in this questionnaire. Imagine your coach and think how he behaves. For each sentence circle the appropriate number on the right to indicate your opinion. Please complete the questionnaire as honestly as you can. Your answers are strictly confidential." In the second form, the same behavioral aspects were to be referred to the ideal coach and these instructions were given: "Now think of the ideal coach and how you would like him/her to behave before and during competition. Here you will find the same sentences of the first questionnaire. Read each sentence again and circle the appropriate number on the right to indicate your opinion. Please complete the questionnaire as honestly as you can. Your answers are strictly confidential." The sentences were to be evaluated on a 5 point scale: (1) Not at all, (2) Somewhat, (3) Moderately so, (4) Much so, (5) Very much so. Items of the questionnaire are here listed.

1. The coach talks calmly to athletes.
2. The coach continuously intervenes disturbing concentration.
3. The coach is interested only in some athletes and neglects others.
4. The coach is calm before and during competition.
5. The coach thinks having fun while competing is also important.
6. The coach talks continuously also when not necessary.

Young athletes' perception of their coach

7. When an athlete makes a mistake, the coach gives him encouragement and support.
8. The coach gets upset and screams during competition.
9. With his intervention the coach helps every athlete to concentrate.
10. The coach is nervous and agitated before and during competition.
11. The coach shows interest in all his athletes before competition.
12. The coach gives importance only to the competitive outcome and always wants to win.
13. In case of mistakes the coach gets upset and reacts badly.
14. When needed the coach adequately intervenes.

Results

Both forms of the questionnaire were reliable (first form $\alpha = .83$, split-half = .86; second form $\alpha = .71$, split-half = .76). From the MANOVA analysis 2 (gender) \times 2 (age: 11/12, 13/14) \times 2 (sport: individual or team sport) \times 2 (questionnaire forms) with repeated measures in the last factor, the following results came up:

- athletes, in general, would have liked to have a better coach than the one they actually had ($F_{1,324} = 202.39, p < .001$);
- athletes practicing individual sports ($F_{1,3} = 16.26, p < .001$) and younger athletes ($F_{1,3} = 13.95, p < .001$), in particular females (gender \times age: $F_{1,3} = 5.22, p < .05$), gave better evaluation of their coach;
- individual sport athletes ($F_{1,3} = 7.28, p < .01$), younger athletes ($F_{1,3} = 5.37, p < .05$) and girls ($F_{1,3} = 11.83, p < .01$) would have liked to have a better ideal coach than the one sport team athletes, older athletes, and boys in general wished to have had;
- difference between perception of own coach and ideal coach was higher in team athletes ($F_{1,3} = 4.28, p < .05$), in older athletes ($F_{1,3} = 4.18, p < .05$), and in females (interaction gender \times sport, gender \times age, gender \times sport \times age are highly significant, $p < .05$).

Mean scores and standard deviations on the two questionnaire forms for each group are reported in Table 1. Differences between the two forms on the main factors (sport, age, gender) are shown in Fig. 1.

Young athletes' perception of their coach

TABLE 1. Means and Standard Deviations on the Two Questionnaire Forms for Each Group

Sport	Age, yr.	Gender	Form 1		Form 2		<i>n</i>
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Individual	10/11	Boys	57.41	7.61	62.75	5.41	44
		Girls	60.32	4.84	64.11	4.43	44
	13/14	Boys	56.87	8.11	62.55	5.36	53
		Girls	58.26	8.24	64.05	5.35	39
Team	10/11	Boys	55.85	6.72	62.50	4.79	34
		Girls	59.39	6.67	64.18	6.07	33
	13/14	Boys	53.88	7.56	58.55	6.62	42
		Girls	51.00	9.02	62.33	4.57	43

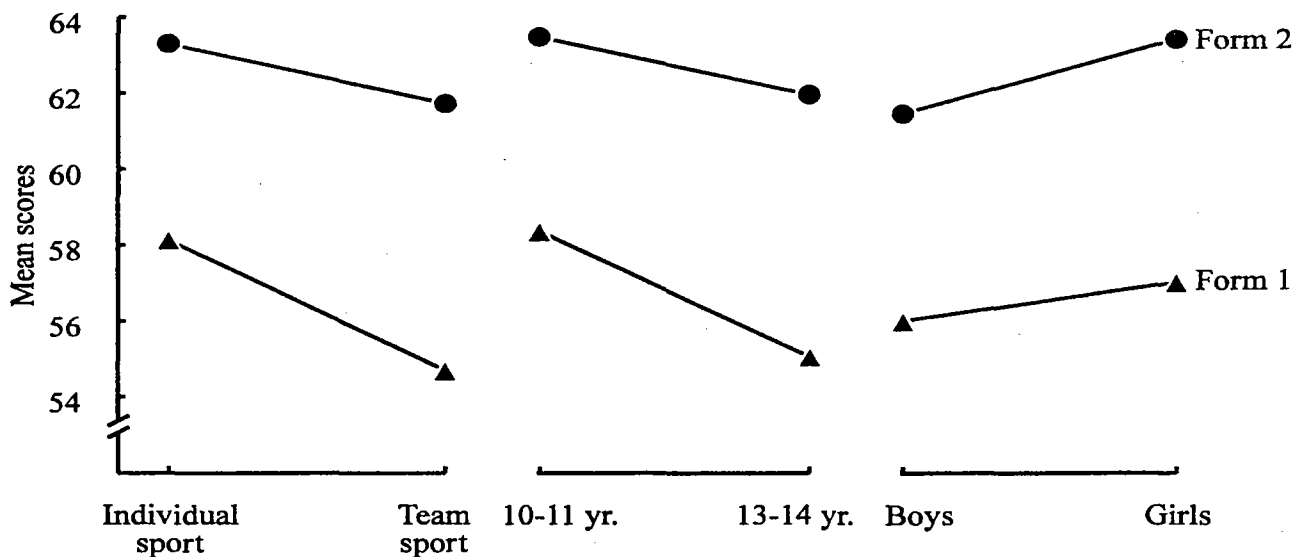


Fig. 1. Differences Between the Two Questionnaire Forms on the Main Factors (Sport, Age, Gender)

Discussion and Conclusions

The results of this research taken together showed a general dissatisfaction with own coach. Even subjects giving higher evaluation of own coach (individual sport athletes, youngsters, and females) perceived the need of different behavior: for example, the coach should speak with lower tone, not give importance to the performance results only, but ensure enjoyment and give support when hard time comes. Athletes practicing individual sports gave a better evaluation of their coach. A stronger relationship coach-athlete tends to develop easily in

Young athletes' perception of their coach

individual sports, while social interactions tend to be more articulated in team sports: next to the coach's interactions, those of team-mates' are important as well. Furthermore, in individual sports younger athletes gave a better appraisal of their coach, girls in particular: socio-emotional dimension and dependence from the adult can have an important role here. Nonetheless, these athletes would like to have even a better coach. Discrepancy between actual and ideal coach was greater in sport team athletes and in subjects aged 13-14, as they gave lower evaluation on their coach. The same pattern emerged on females, probably because the socio-emotional dimension in sport has value to them.

Coaches must therefore be prepared non only from a technical point of view, but from didactic and pedagogic perspectives as well. They should know how to help a positive experience on children and reduce burn-out. Programs to improve communication on coach-athlete relationship when educating coaches for young athletes, should be considered. Barnett, Smoll, and Smith (1992) have studied the impact of coach education program on children in sport. This program, known as Coach Effectiveness Training (CET), is designed to enhance coaches' ability to create a more positive environment for athletes (see Smoll & Smith, 1988, 1993, for a discussion). From their findings it was clear that coaches who had followed the program had been highly positively perceived by their children. Children, on the other hand, had more fun out of sport practice. Furthermore, the drop-out rate in children of trained coaches was notably lower, also when compared with other findings concerning sport attrition in youngsters.

Coaches should learn to use a positive approach with youngsters, keeping in mind that they are not working with adults but with children developing skills and personality (Gould, 1982). For the coach, adopting a positive approach on the relation should mean giving sincere praise, encouraging athletes especially when facing difficulties, keeping realistic expectations, highlighting efforts instead of outcome, recognizing technical performance in addition to outcome, and supplying the necessary feedback for any corrections (Smoll & Smith, 1984).

A positive approach is based on healthy perspective aimed at maximizing enjoyment of young athletes in sport. Agreeing with Smoll and Smith (1993):

- winning is not everything. It is an important goal but not the only one;
- losing is not failure or threat to personal value;

Young athletes' perception of their coach

- success is not synonymous with winning. Even losing when competing, personal performance improvement or specific goals may be accomplished;
- success is not only victory, but strive for victory also.

According to Gould (1987), coaches should also know strategies to sustain sport motivation:

- structure the environment to stimulate learning and performance. It is important to know and apply methodological principles to optimize learning (task analysis, variability of practice, modeling, knowledge of results and performance, etc.);
- keep activities fun. Having fun is normally the first answer young athletes give when asked why they practice sport. Participation should be maximized, giving everybody the opportunity to play and participate;
- allow time for children to be with friends. This can be accomplished creating occasions for children to stay together also outside sport arena;
- keep activities exiting. Spending much time on just one drill lead to boredom, little attention, and low motivation;
- help youngsters to define and achieve success. Victory is not the only goal children have in sport. Children normally prefer playing with a losing team than being seated on the bench of a winning team.

In conclusion, coaches should understand they have an important role on young athletes' sport experience. They should be trained not only on technical competencies, but also on communication skills, correct feedback and appraisal, comprehension of subjective needs and motivation. This way they can contribute to improve youth's sport experience and reduce burn-out.

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EXPERT COACHES VIEWS ON THE TRAINING OF DEVELOPING COACHES

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KEY WORDS

coaching, expertise, development, mentorship

INTRODUCTION

Sport psychology initially examined the distinct knowledge and skill of expert athletes and coaches. While early research mainly focused on issues relating to athletes, the literature has recently considered the knowledge of expert coaches (Côté, Salmela, & Russell, 1995; Côté, Salmela, Trudel, Baria, & Russell, 1995; Gould, Giannini, Krane, & Hodge, 1990; Salmela, 1994; Walton, 1992). Despite the growing interest in coaching, very little research permits expert coaches the opportunity of expressing their own views, specifically on the training and development of aspiring coaches.

While there exists a vast quantity of general information on coaching, there is surprisingly little systematized conceptual views on the coaching process. One exception was the recent work of Côté, Salmela, Trudel, Baria, & Russell (1995), which contributed a sport specific conceptual model for the process of expert gymnastic coaching (Figure 1). The coaching model's three central components of competition, organization, and training provided aspiring coaches with a heuristic model for acquiring coaching knowledge.

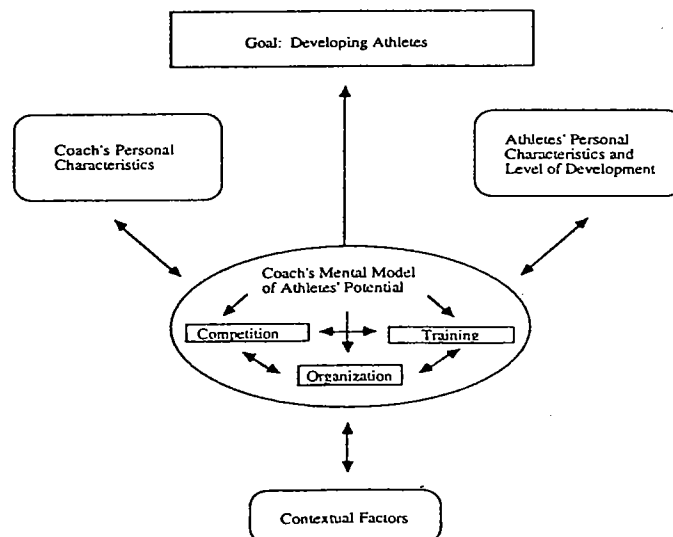


Fig. 1. Côté et al.'s Coaching Model for Expert Gymnastic Coaches

Salmela (1994) also studied expert coaches, specifically looking at the career markers of expert team sport coaches. This research was unique because it considered both the coaching practices and the athletic evolution of the expert coaches. Of importance, was the significance of mentors in both the athletic and coaching careers of these coaches. This study, like the one by Côté, Salmela, Trudel, Baria, & Russell (1995), contributed to the entire process of expert coaching, but did not elicit information on the development and career progression of expert coaches.

Gould, Giannini, Krane, and Hodge (1989) also examined the educational needs of 130 expert American coaches, looking at the benefits of academic education, coaching clinics and coaching science courses. They affirmed the need for a more structured coaching education program that would extend beyond coaching manuals and incorporate practicable mentoring programs and the value of experiential knowledge. The purpose of the present study in relation to Gould et al.'s is twofold: to determine whether similar views about coaching development exist in Canada and the U.S.A.; and to look at a similar phenomenon using a different methodological approach.

METHOD AND PROCEDURE

Twenty-one expert Canadian team coaches were selected based on their national and international coaching results, the number of years of coaching experience and the recommendations of their coaching peers. The professional positions of the coaches varied from the intercollegiate level to current and former national team coaches. The average age of these coaches was 45.5 years and they had coached at the elite level for an average of 18.1 years.

Patton's (1980) interview approach was employed in the current study. This included a combination of structured and unstructured questions on athletic and coaching development, current coaching practices and the future direction of coaching. An examination of the interview transcripts found that approximately 8% of the text included information considered to be within the boundaries of the future training of coaches. In total, 440 pages of single spaced interview manuscript was selected, 34 of which related to this topic. All data were transcribed verbatim from their transcript to a typed format immediately after the completion of each interview. The interview procedures provided

by Côté, Salmela, Baria, and Russell (1993) were followed, whereby the data was transcribed and analyzed in a customized version of Borland's Paradox for Windows, designed specifically for qualitative data.

RESULTS

The purpose of the current research was to elicit from expert coaches their recommendations regarding the best methods for acquiring coaching training. The results of this analysis revealed that expert coaches believed that more emphasis was needed in the following four areas: clinics, seminars and symposiums, hands-on experience, passive observation of other coaches, and, most importantly, a structured mentoring program. The first three areas received equal attention, and are not listed in any order of importance. However, the fourth area had the most support from the coaches; it is listed last, primarily because it included elements of the other three areas. This section of the paper will now discuss these four areas.

Clinics, Seminars and Symposiums

Coaches stressed the benefit of attending seminars, clinics and symposiums where they interacted and exchanged ideas with both expert and novice coaches. Although these clinics did not always teach coaches new ideas, they were beneficial in affirming their coaching methods, both in content and process.

Clinics have been a fantastic thing for me. I think it is beneficial if you can expose yourself to a clinic with people who are talking about things that interest you. I have never come away from a clinic where I haven't learned something - not necessarily something brand new, but a new twist or thought on something that I may have done for years. (IH)

I think in our sport we need more symposiums. What is being done internationally, is not even in our books. You have to expose coaches to as many different influences and ideas and then the coach has to develop his or her own style of what they think is going to be important and how they think it all fits together. We have got to deliver that kind of information to our coaches all the way across. (VB)

Although coaches acquired much knowledge through clinics, seminars and symposiums, they also stressed that there was more to learning than straight theoretical knowledge. One such means was observing more experienced coaches in their natural settings.

Hands-on Experience

The coaches stated the benefit of learning through hands-on experience. This meant that they were on the ice or in the gym with more experienced coaches. Although they were not mentored by the more experienced coaches, they were able to observe and extract relevant information, just by participating in the process. The coaches also believed that this was part of “paying their dues” and they encouraged others to follow the same path.

I would say that you need young coaches to be in the gym with experienced coaches. They can work with an ask questions about the physical, psychological, technical and tactical components. (VB)

I read a book by the football coach at Notre Dame, and I really enjoyed the book. However, it didn't give me a feeling of how thorough he was, and some of those things. Obviously, there are some ingredients to this man that you can feel from the book, but you have to meet him and see him in action to be able to get it. (IH)

So far, it has been shown that information has been acquired proactively. Despite this, there were times when passive observation was equally valuable.

Passive Observation

Observing coaches in practice, games and through audio-visuals were three examples of acquiring coaching knowledge that was recommended by the expert coaches. Whereas in the previous method of learning, coaches actively participated with the athletes and coaches, in this instance, the coaches observed unobtrusively. This process was carried out in many ways, some of which included observing from the bleachers, standing on the sidelines, or sitting within hearing distance of the coach. Of note, while

most coaches were acquiring positive knowledge, some also recognized that there was information that they knew they would never use.

I just stole everything I could. I always sat behind the other coaches' benches, and I stole whatever I liked. The other part of it was that I found things I did not like and would never use. (BB)

One of the things that I think coaches don't do enough of, and I've always tried to do quite a bit of, is observing other coaches in action. Sometimes when I'm out at practices, every once in a while I see some guy up there in the stands, just taking a look at drills. It always surprises me why more coaches don't do that, and I always remind them about this sort of thing when I'm talking to them at clinics. (IH)

Three areas of coach education have been mentioned so far, all of which have equally contributed to coaching education. The last, and most important recommendation, termed the mentoring process, incorporated a combination of the three previous areas.

The Mentoring Process

The main feature with this process was that it involved more of a personalized approach than the others. In fact, many of the coaches stated that a life-long relationship has developed with their coaching mentor, with many still referring to them for advice. In this area, the mentor shared more knowledge with the developing coach, allowing him or her access to a multitude of resources including colleagues, team meetings and functions, exposure to higher level competitions and athletes. It is also interesting, that although most coaches were fortunate to have worked with expert coaches in their field, much of this occurred by chance, luck or personnel persistence.

I took an advanced basketball course with a university coach. I did pretty well and he asked me if I wanted to assist him. I worked with him and found that he opened up a whole new area of coaching for me; both his management style and organization really caught my interest. (BB)

I think a Level 1 coach should have a mentor coach with them during a game or season. The problem is that it is very time consuming for the mentor to do that, and you also have to find someone who is committed to it. I don't know how practical it is, but I do know that it is important for the growth of young coaches. (FH)

You have to get a coach and be with that coach all the time. The mentor coach has to be a teacher; someone who can communicate information, not someone who can just relay a system and has you pick up balls and stand and watch a drill. It has to be someone who challenges you to learn stuff about coaching, kids, and all of the other components. As mentor coaches, we have to take this responsibility seriously and care about the developing coaches. (BB)

I would like to see a person as an apprenticeship coach, and they'd have to do it for a month. With the geography of Canada it is difficult because people live so far apart and it would cost money. I think it would be money well spent because people go to clinics and say I have watched your team play and I don't think you do that; but their interpretation is completely different. (VB)

In sum, it has become apparent that developing coaches should aim for experience in both the practical and theoretical areas. The culmination of this training should be delivered by an experienced and well-respected mentor coach, despite the fact that there are still many barriers to overcome to improve this area of coach training.

DISCUSSION AND CONCLUSIONS

Many of the conclusions reached by Gould, Giannini, Krane, and Hodge (1990) in their survey of elite American coaches were also confirmed in the present study. The one exception of note, was the present emphasis in regard to the importance of a structured and formalized mentoring program. However, this may have more to do with the methodology used, rather than the differences in coaching beliefs. Whereas Gould and colleagues used the more traditional survey questionnaire for data accumulation, the current study employed an in-depth, detailed qualitative analysis using probe questioning

(Patton, 1980). This may have provided a more thorough understanding on the knowledge and viewpoints of expert coaches. This may also lend support to Martens' (1979) assumption regarding the limitations of orthodox science, specially when dealing with such a complex domain as expert coaching.

Other research that has incorporated the use of qualitative data gathering on expert coaches will also benefit from the study (Côté, Salmela, Trudel, Baria, & Russell, 1995; Salmela, 1994). Although these studies were most beneficial for their methodological and theoretical components, they did not examine information related to the recommendations on future training for aspiring coaches. Thus, the present research has extended the initial research by providing coaches with the opportunity to offer developing coaches some recommendations to follow if they wish to progress up the coaching ladder.

In sum, the results of this study suggest that standardized procedures should be implemented in coaching development programs. Like other areas of expertise, it is the experts themselves who must be given the opportunity of expressing their views and opinions in their own words. In this case, it was the recommendations for training future coaches that was examined, and four areas in particular were suggested which should prove useful for coaches at all levels.

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COACHES ESTIMATION METHOD FOR THE ATHLETES (CEM)

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Science

Key Words: observation, Likert-scale, coaches estimation, attitudes about athletes.

Introduction: Problems of Estimation in Sport

Ever since when the competitors have been preparing for sport events, coaches have always done estimations about the state of athletes. The wise of estimation can be various and its accuracy also differ from each other. It depends on the education of the coach, how important this problem for the coach is, and it is influenced by the characteristics of sport.

The most simple estimation takes for basis of sport-result. But this is a strong limited variant only, because it can not realize the construction and dynamics of performance. It can be read such a reduced evaluation in the news and in the media.

It is not far from this method if the process of the competition are detailed. Although the results of rounds, series of games and matches are able to show the dynamics of performance, but a lot of important points of view of qualified and quantified content cannot to be found. Examinations were carried out on football players in the 1st league and on national fencer team Hungary to establish an objective level of performance. The purpose was to realize the quality and frequency of actions and the rate of successful-unsuccessful execution (Nagykálldi,Cs.,Pilvein,M,1970). Some players were estimated by the coach with a subjective rating scale of game-efficiency but the results did not agreed with each other.

According to our interpretation the main differences between the estimations were, that the objective measurement had a few partial variables and the coaches estimation took the whole athlete into consideration. The partial and holistic style of estimation is opposed and differ essential. That is why not might to concentrate a good estimation method to the partial sport result only. The results are standing at the end of a sport preparation, they could not influence more the exercise, and they give only some information for correction in the future. It is important to develop a useful method for using in the daily training and competition.

The basis of estimation.

The basic of estimation is the continuous observation. If we want to estimate the ability of athlete in physical activity we shall take definite points of view into account. These points of view will tend to the components of performance. The main three direction of observation according to our experience and training theory are the somatic-physical ability, the motor skill as a technical level of movement and the psychological regulation.(Kaminski,G.1975).

We have to look the well observed phenomena inside the three directions, what every coach are able to do. There are the next: The behavior and changing of behavior, the motor skill activity, and reactions in the sport situations. The coach is in such a situation that he/she is able to observe lot of variables of sport action.

Method and Procedure

There were several factors chosen in the somatic, motor and psychological directions. That has been given the logical construction of the test. Variables are: Physical condition, Loading tolerance, Stress tolerance, Windup, Technical level of skills, Hard work, Expectancy of achievement, Sociability and Readiness.

The observation of coach relates to the present state of athlete. Diagnostic purpose of observation the coach has to estimate his/her athlete according to the variables, how high level the athlete has, how much is he able to mobilize himself at present? Every athlete will be compared to his own general level.

The possibility for measurement is given by Osgood's "semantically differential" (Osgood, C.E., Suci, G.J., Tannenbaum, P.H. 1957). Each variable has a bipolar dimension, which has got the highest and the lowest grade and in the middle there is the medium level. A semantically statement belongs to the highest and lowest grade and between this two points, there are seven grades. This is the so called Likert-scale method with seven steps. It shows metrical relations of the coach opinion and experience. The coach estimates the athlete with marks, similar to the teacher who gives marks for the student in the school.

The CEM contains 9 items in a 7-point Likert scale. The questionnaire is on Table 1.

Evaluation

The circled numbers in the questionnaire will get different point-values. From left to right: 7, 6, 5, 4, 3, 2, and 1 points. These values will be computed later.

Reliability

Alpha Crombach value was computed with software program of SPSS+PC. N= 200 persons. Alpha= . 7881. This value is suitable for the general condition of Likert scales. Therefore The CES-test is reliable.

Validity

A group of coaches (N= 24) have estimated their two shooters of the same age. One of them was a very successful and the other one a very unsuccessful competitor. Test results were compared and analysed with t-test. The results are on Table 2.

Examples of examination

Handball national team, male (N= 18), fencers in the 1st league (N= 30), junior weightlifters junior (N= 22), judo national team (N= 15), Shooters' national team (N= 31), and car-racers national team (N= 20).

The total example: N= 136 athletes. The results are on Table 3.

Table 1.

Coaches Estimation Methode for Athletes (CEM)

Nagykálldi, Cs., Manohar Singh, B. 1994

Name of athlete..... Male/Female. Age.....

Name of sport Name of coach

Please circle the level of present state of your athlete. The left side is the maximum and the right side is the minimum, and zero means neutral.

1. Physical condition

Maximum level (Excellent)	3	2	1	0	1	2	3	Minimum level (Very bad)
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2. Loading tolerance

He/she is able to carry the load very well	3	2	1	0	1	2	3	He/she is not able to carry the load at all
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3. Stress tolerance

Very calm, stress-stability	3	2	1	0	1	2	3	Very sensible, lability
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4. Windup

Very excited before the event	3	2	1	0	1	2	3	Not excited but apathetic
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5. Technical level of skills

All skills are perfect	3	2	1	0	1	2	3	Skills are uncertain
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6. Hard work

Unlimited and enthusiastic	3	2	1	0	1	2	3	He/she skiv off from work
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7. Expectancy of achievement

He/she able to achieve the aim	3	2	1	0	1	2	3	He/she is unable to catch the aim
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8. Sociability

Opened and co-operative	3	2	1	0	1	2	3	Uncommunicative, reserved
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9. Readiness

Very good, perfect	3	2	1	0	1	2	3	Very bad, not to be found
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Interpretation of variables (concept and content)

Physical condition means a potential workability for physical loading. The main component of condition are: strength, velocity and endurance. Their manifestation has to be observed by the coach. In the physical condition physiological and psychological mechanisms exist together.

The loading tolerance concern to tolerate of strong and long term loading. It depend on from the mobilization of condition components. Physical and psychical factors are playing roles as attitudes and violence.

The stress tolerance exists at not habitual and big loading effects as the wise of reaction. Competitors who have got high stability in stress tolerance are able to reply reliable and adequate to the sudden and strong stimuli (unsensibilization). But sensible is the person if he/she gives quick reaction for the light stimuli (sensibilization).

The windup is a state of excitement at start and competition. The very high and low levels are bad for performance. The low level is named as start-apathy. Observation of windup is problematic enough.

The technical level of skills is a knowledge of exercises and an ability to do it. Not the technical repertoire is in the question but how can be it mobilized at present. The estimation of technical level is a difficult task for coaches because they have to analyze the active knowledge of exercises.

The hard work expresses a basic attitude towards exercise. The hard work shows, how close connection the athlete has to his/her every day sport and training. It is an important component of achievement-motivation as a need for effort.

Expectancy of achievement is built from aspiration level of coach. Without expectancy there are not goal setting, planning and conscious execution. Using this scale the coach want to give a real prognosis about the result.

Sociability or common attitude interweaves the whole life and so the training too. It influences the style of work and the relation between the coach and athlete. Especially it has to be taken into account if individual or team work is in the question.

In the concept of readiness are summarized all points of view by the coach which were considered during the preparation. The readiness tends to the performance, it contains potentially the performance and the mobilization of athlete to fulfill all his tasks.

Common interpretation of variables is important because needed to equalize the misunderstandings in the concepts and their contents of variables. Firt of all coach and athlete have to agree because so they avoid the conflicts, second coaches can understand each other so they will be able to have a common attitude in the estimation.

TABLE 2. Validity
(N= 24)

Variables	M1	DS	M2	DS	T	P
Physical condition	5.75	0.99	4.08	1.31	4.96	0.001
Loading tolerance	5.88	1.03	4.21	1.50	4.47	0.001
Stress tolerance	5.04	1.12	3.88	1.33	3.28	0.01
Windup	4.50	1.25	3.75	1.67	1.75	----
Technical level	5.58	0.88	3.46	1.10	7.37	0.001
Hard work	5.71	1.08	4.13	1.19	4.81	0.001
Expectancy of achievement	6.00	0.78	3.46	1.22	8.62	0.001
Sociability	5.42	1.21	4.33	1.46	2.79	0.01
Readiness	5.63	1.01	3.46	1.22	6.70	0.001

M= mean, SDI standard deviation, T= t-test, P= significance

Table 3. Results
(N= 136)

Variables	M	SD	SE	min	max
Physical condition	5.06	1.27	0.11	1	7
Loading tolerance	5.13	1.44	0.12	1	7
Stress tolerance	4.24	1.45	0.12	1	7
Windup	4.48	1.35	0.11	2	7
Technical level	4.69	1.22	0.10	1	7
Hard work	5.11	1.45	0.12	1	7
Expectancy of achievement	5.06	1.09	0.09	2	7
Sociability	5.20	1.48	0.13	1	7
Readiness	5.01	1.13	0.09	2	7

M= mean, SD= standard deviation, SE= standard error, min. and max. values

The main factors of CEM

The test used to be analysed generally whether it should have some main factors. On the following table we shall study the results of correlation. There are a lot of correlation and it is not surprising because the variables depend on the state of athlete. We have found characteristic patterns of attitudes among different exercise groups in our earlier investigations about the self estimate. (Nagykaldi, Cs. 1985).

TABLE 4. Correlation among the variables
(N= 136)

	V1	V2	V3	V4	V5	V6	V7	V8	V9
V1	1.00	.75**	.09	.12	.47**	.49**	.37**	.12	.58**
V2		1.00	.21*	.21*	.40**	.57**	.40**	.24**	.54**
V3			1.00	-.05	.19*	.13	.20*	.11	.14
V4				1.00	.09	.24**	.17*	.009	.11
V5					1.00	.35**	.58**	.23**	.67**
V6						1.00	.33**	.24**	.42**
V7							1.00	.26**	.48**
V8								1.00	.35**
V9									1.00

*.01 ** .001

It was carried out a varimax factor analysis to be establish the main factors. It was extracted three factors. The most important factorweights are underlined.

TABLE 5. Varimax Factor Matrix

Variables	1. factor	2. factor	3. factor
Physical condition	<u>0.80368</u>	0.32546	0.07344
Loading tolerance	<u>0.79764</u>	0.26329	0.19433
Stress tolerance	0.00248	<u>0.38366</u>	0.00398
Windup	0.26423	-0.09816	0.17845
Technical level of skills	0.36425	<u>0.66654</u>	0.25665
hard work	<u>0.60533</u>	0.12358	0.18808
Expectancy of achievement	0.29466	<u>0.60284</u>	<u>0.34420</u>
Sociability	0.14338	0.17885	<u>0.40539</u>
Readiness	<u>0.59518</u>	<u>0.51269</u>	0.29631

Discussion and Conclusion

Analyzing the CEM test-variables it can be established the test has the required level of reliability, and validity. In the factor analysis there are three factors.

The 1st factor is named as Condition Factor and it contains the variables of condition, loading tolerance, hard work and readiness. They are dominant in this factor.

The 2nd factor has a name of Psychomotor Coordination Factor and it includes the technical level of skills, the expectancy of achievement, the readiness variable again, and even the stress tolerance.

The 3rd factor is the Psycho-social Factor. It contains only two variables, the sociability and the expectancy of achievement with not a very high factorweight. The coach wait for his athlete a good result in the competition and this means a strong social expectancy.

All the variables have function in the CEM test except one. The windup could not have given a proper validity than it had a very low factorweight in the analysis. So it will fall out of the list in the future.

On basis of analysis an whole our investigation the CEM can be useful for estimation of coaches. If a well educated coach want to use the CEM so he/she have to read the interpretation of variables carefully and during a critical estimation process he/she will use it very efficiently. We suppose the using this test will give success in the sport preparation.

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**DIFFERENTIAL PATTERNS OF COHESION WITHIN
THE MIXED SEX SPORT OF
KORFBALL : A LONGITUDINAL STUDY.**

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Key Words : Korfball, Cohesion

INTRODUCTION

Sports teams play an important part in the lives of many individuals at both a passive (spectator) and active (participant) level. As such they form a large element of organised sport and represent a particularly interesting environment for the understanding of group dynamics. The well known adage that 'players play but teams win', highlights the commonly held belief that only cohesive sports teams can be successful. Given the focus in competitive sport on winning, it is not surprising that the vast majority of the research in group dynamics is based on the performance-cohesion relationship and specifically whether cohesion was an antecedent or consequence of performance success. Widmeyer, Carron & Brawley (1993) report that 83% of the published studies report a positive relationship between these variables with higher levels of cohesion associated with greater levels of success. Furthermore it appears that this relationship particularly holds for those team games that require a high degree of interdependence amongst individual members such as basketball and hockey.

Recent reviews of the area by Widmeyer, Brawley and Carron (1992) and Widmeyer, Carron & Brawley (1993) however highlight the somewhat limited research, both in terms of quantity and quality, that has been undertaken in the area.

A major step forward in this respect was the conceptual framework put forward by Carron (1988) for examining the dynamics of sports groups. His linear model (see Fig 1) outlines the potential role that (a) inputs (eg. personality of group members, where the group meets), (b) throughputs (eg. group member status, level of communication, unity) and (c) outputs (eg. individual satisfaction, performance success) have within a group sport setting.

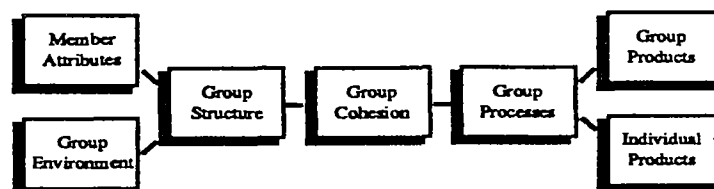


Fig. N° 1 : A Model of the sport team as a group from Carron 1988.

This approach also led to the development of more complex, theory driven measurement of cohesion in sport, namely the Group Environment Questionnaire [GEQ], (Widmeyer, Brawley & Carron 1985). This 18 item questionnaire assesses both individual and group aspects of cohesion at both a task and social level.

It thus measures 4 subscales of cohesion; individual attractions to both social aspects (ATG-Social) and group goals (ATG-Task) as well as individual perceptions of the group as a totality around task (GI-Task) and social (GI-Social) elements. As such it has proved a valid and reliable tool in assessing various aspects of cohesion in sport and exercise settings.

The overwhelming majority of research on cohesion in team games is based upon male subjects, with a only a small amount of research examining the dynamics of female sports groups. One area that has received scant attention concerns gender influences on the cohesion process within a sports team. Obviously this is due to the lack of truly mixed team games in sport. What is required is a game where the ethos and rules allow for equal participation by both sexes. It would however appear that such a game does exist - the game of Korfball. Korfball was invented in 1903 by Nico Broeukheuyzen with the twin aims of co-operation and co-education. The game is often described as a cross between the games of basketball and netball. Teams consist of equal number of men and women who cannot dribble or move with the ball when in possession and can only be marked by opponents of the same sex. Physical contact is not allowed and players play as defenders and attackers during different periods of the game. Thus the game is said to :

"actively promote sexual equality in decision making,
responsibility, skills and expression"

(Carter 1986 p26)

and thus promote sexual equality without removing the valuable element of competition. Thus the game was set up to attract players who perhaps differed in both attitudes and characteristics to those who play single sex team games. However, despite the egalitarian goals of the game, research undertaken by Summerfield & White (1989) and Crum (1990) found that women hold fewer positions of power within korfball clubs and that female players were for the most part ranked lower in team status than their male counterparts. If the twin goals of co-operation and co-education are being fulfilled within the game of korfball, then one would expect that patterns of cohesion found within a team would not be differentiated by whether the player was male or female. Thus the game of korfball presents a unique environment for examining the dynamics of cohesion as a function of player sex. The current study sought to specifically examine this issue by assessing the levels of cohesion of male and female korfball players early and late in a competitive season.

METHODS & PROCEDURE

The GEQ (Widmeyer, Brawley & Carron 1985) was administered to 20 male (mean age 20.5 years) and 15 female (mean age 20.5 years) korfball players who played competitive student based korfball in the U.K.. Data was collected on two separate occasions. The GEQ was first administered at a tournament 3 weeks into the competitive season and the second measure obtained before weekly training sessions approximately 3 weeks from the end of the season.

RESULTS

The descriptive data is summarised in Table 1 below.

TABLE 1 : GEQ Mean and Standard Deviation Sub-Scale scores of Male and Female Korfball Players Early and Late in the Competitive Season

GEQ SUBSCALE	PLAYERS SEX			
	Male		Female	
	Season		Season	
	Early	Late	Early	Late
ATG - Social	33.75 [7.9]	33.4 [7.0]	35.1 [5.7]	33.7 [6.8]
ATG - Task	27.55 [5.5]	26.8 [5.3]	32.2 [3.5]	29.1 [4.9]
GI - Social	25.85 [4.8]	25.1 [4.6]	28.5 [4.2]	25.6 [4.9]
GI - Task	31.10 [7.5]	31.0 [7.2]	34.8 [4.9]	30.4 [5.3]

Four separate sex (male, female) by season (early, late) ANOVA's were carried out on each of the GEQ subscales (ATG-T, ATG-S, GI-T, GI-S). Only one main effect for season was observed on the ATG-Task variable, $F(1,33) = 4.02$, $p = 0.05$. A significant main effect of sex was also obtained on the ATG-Task analysis, $F(1,33) = 6.21$, $p = 0.018$. Finally, none of the sex by season interaction ANOVA's reached significance.

DISCUSSION & CONCLUSIONS

In essence the results demonstrate that for the most part the sex of a korfball player was not having a differential impact on the development of cohesion in this instance.

The ATG-Task subscale however revealed players individual attractions to the goals of the team fell from early to late season (see Table 1). Secondly, female korfball players reported more personal involvement to the groups task related goals than their male counterparts. It has been consistently found that females are more task oriented than their male counterparts in sport settings (Duda, Olsen & Templin, 1991) and the higher ATG-Task scores might well be related to this fact. Thus male and female korfball players might well differ in the goal perspectives (task versus ego) they hold and that this may impinge upon the cohesion process. However it remains surprising that the GI-Task scores did not follow a similar pattern.

Overall this preliminary study highlights the unique position that the game of Korfball holds for examining (in a true mixed team setting) how the development of cohesion may be influenced by player sex. Future research should examine more stable Korfball teams than the students groups examined in the current study and also assess how player sex might differentially affect other factors such as team stability, role acceptance and role clarity within a mixed team setting. Additionally the goal perspective of male and female korfball players would appear to offer a fruitful avenue of study to assess whether the goals of the game of korfball are indeed being met equally for male and female participants alike.

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COACHES' PERCEPTIONS OF ATHLETE PARTICIPATION MOTIVES.

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KEYWORDS

participation motives, athletes, perceptions, coaches, handball

INTRODUCTION

From the participation motivation literature, it appears that the major motives that young athletes give for their sport participation are fun, to improve their skills or learn new skills, to be with friends or make new friends and developing fitness (e.g., Gill et al., 1983; Klint & Weiss, 1987). However, research show us also that young people have multiple and different reasons for participating in sports (Fonseca, 1995).

Therefore, understanding the specific motives for athletes' participation in sports can help respective coaches to increase the efficacy of their sport training processes. In fact, we believe, that if the athletes' motives are integrated in their sport training process they will become more orientated to their sport practice, and their satisfaction and performance will be increased. For this, obviously, coaches have to possess a high knowledge about their athletes' motives. Nevertheless, coaches knowledge of why athletes participate in sports has been a neglected aspect of sport research (Devoe & Carroll, 1994).

The present study, therefore, was designed to adress the folowing goals: 1) the identification of the athlete main motives for current involvement in competitive handball; 2) the assessment of the coaches' perceptions regarding the athlete participation motives.

METHOD AND PROCEDURE

Subjects

Subjects were 272 male athletes (10-17 years) of competitive handball and their 22 respective coaches. Subjects were recruited from a competitive handball league in North of Portugal.

Instruments

We used a adapted and validated version (Serpa, 1992) of the Participation Motivation Questionnaire (Gill et al., 1983) which contains 30 motives for participating in sports.. The items were ranked on a 5-point scale ranging from 1(*not at all important*) to 5 (*very important*). While the athletes indicated the importance of each motive for their sport practice, coaches responded according to their perceptions about the importance of each motive for the sport practice of their athletes.

Procedures

The questionnaires were administered to the athletes during periods before or after their regular practice sessions. The investigators explained the purpose of the research and assured the confidentiality of responses. Coaches and athletes did not communicate while completing the questionnaires.

RESULTS

Table 1 shows the motive rankings that athlete and coaches attributed to each item. Athletes reported that the main reasons leading to handball practice are related with affiliation/team (e.g., team spirit: 1°; teamwork: 3°; meet new friends: 5°), physical shape (e.g., be physically fit: 2°; be in shape: 4^a; get exercise: 8°), competition/challenge (e.g., compete: 6°; win: 11°; challenge: 12°), and skills (e.g., learn new skills: 7°; improve skills: 10°). Motives related to other people (e.g., parents or close friends want me to participate: 29°; coaches: 26°) and status (e.g., feel important: 28°; be popular: 24°; gain status or recognition: 23°) were the less important to athletes.

Coaches perceptions of athlete participation motives

TABLE 1. Motives Reported by Athletes and Their Coaches for Handball Practice. Mean and Rank of Each Motive.

motives	athletes		coaches	
	mean	rank	mean	rank
the team spirit	4.37 *	1	3.36	7
to be physically fit	4.29	2	3.27	10
the teamwork	4.29 *	3	3.73	3
to be in shape	4.17	4	3.00	20
to meet new friends	4.13	5	3.27	11
to compete	4.10 *	6	3.86	1
to learn new skills	4.08 *	7	3.32	8
to get exercise	4.06 *	8	3.27	12
to go to a higher level	4.03 *	9	3.23	13
to improve skills	3.95 *	10	3.41	6
to win	3.93	11	3.32	9
the challenge	3.92 *	12	3.18	14
the action	3.72 *	13	3.14	15
being on a team	3.67	14	3.59	4
to be with friends	3.56 *	15	3.77	2
to do something I'm good at	3.55	16	3.09	16
to have fun	3.48 *	17	3.46	5
the excitement	3.43 *	18	2.55	25
to release tension	3.19	19	2.41	27
to get rid of energy	2.91	20	2.55	26
to use the equipment or facilities	2.88	21	3.05	17
to stay in shape	2.80	22	2.36	28
to gain status or recognition	2.77 *	23	2.68	22
to be popular	2.67 *	24	2.68	23
to have something to do	2.65	25	2.32	29
the coaches	2.64 *	26	3.05	18
to travel	2.56	27	2.73	21
to feel important	2.50	28	2.59	24
parents or close friends want me to participate	2.46	29	3.05	19
to get out of the home.	1.88	30	2.18	30

$p \leq 0.05$

On the other hand, when coaches were asked why they thought their athletes participated, they indicated motives slightly different to those indicated by their athletes. According to coaches the athlete more important motives were the motives related to competition (e.g., compete: 1°; win: 9°) affiliation/team (e.g., be with friends: 2°; teamwork: 3°; being on a team: 4°; team spirit: 7°) and skills (improve skills: 6°; learn new skills: 8°) and the motives related to energy release (e.g., get rid of energy: 26°; release tension: 27°) and status (gain status or recognition: 22°; be popular: 23°; feel important: 24°) were the less important motives.

Coaches perceptions of athlete participation motives

Also, the results contained in Table 1, revealed that: a) athletes, in general, rated all motives as more important than their coaches; and b) there were found significant differences ($p \leq 0.05$) between athletes' and coaches' answer values in half of the motives.

TABLE 2. Motives Reported by Athletes With Different Ages and Their Coaches for Handball Practice. Mean and Rank of Each Motive.

motives	10-12 years				15-17 years			
	athletes		coaches		athletes		coaches	
	mean	rank	mean	rank	mean	rank	mean	rank
the team spirit	4.46	1	3.60	8	4.30	1	3.16	13
the teamwork	4.46	2	3.90	5	4.13	3	3.58	2
to be physically fit	4.36	3	3.10	18	4.20	2	3.42	5
to go to a higher level	4.29	4	3.30	13	3.78	11	3.17	11
to compete	4.29	5	4.10	2	3.91	9	3.67	1
to learn new skills	4.23	6	3.10	19	3.93	7	3.50	4
to get exercise	4.22	7	3.40	11	3.90	10	3.17	10
to stay in shape	4.22	8	2.50	28	4.11	4	3.42	6
to meet new friends	3.98	9	3.50	9	3.07	18	3.08	15
to win	3.94	10	3.30	14	3.93	6	3.30	7
the challenge	3.92	11	3.10	20	3.92	8	3.25	9
being on a team	3.92	12	4.20	1	3.42	14	3.08	14
to have action	3.91	13	3.50	10	3.54	13	2.83	16
to improve skills	3.88	14	3.20	17	4.02	5	3.58	3
to do something I am good at	3.80	15	3.40	12	3.31	15	2.83	17
to have fun	3.75	16	3.80	6	3.22	17	3.17	12
the excitement	3.63	17	2.90	24	3.24	16	2.25	23
to use equipment and uniforms	3.54	18	4.00	4	2.22	25	2.25	26
to be with friends	3.45	19	4.10	3	3.67	12	3.30	8
to release tension	3.30	20	2.60	27	3.07	19	2.25	24
the coaches	3.22	21	3.30	15	2.07	27	2.83	18
to gain status or recognition	3.13	22	2.90	25	2.42	22	2.50	20
to receive ribbons and trophies	3.13	23	3.10	21	2.47	21	1.75	30
to be popular	3.12	24	2.80	26	2.20	26	2.58	19
to have something to do	3.03	25	2.40	29	2.29	24	2.25	25
to feel important	2.99	26	3.30	16	2.02	29	2.00	28
parents or close friends want me to participate	2.89	27	3.80	7	2.04	28	2.42	22
to get rid of energy	2.78	28	3.00	23	3.04	20	2.17	27
to travel	2.73	29	3.10	22	2.39	23	2.42	21
to get out of the house	2.19	30	2.40	30	1.57	30	2.00	29

The importance of the motives seems vary with the age of the athletes (see Table 2). In fact, there were evident significant differences ($p \leq 0.05$) between younger (10-12 years of age) athlete motives and older (15-17 years of age) athlete motives in 22 of the 30 motives. Younger athletes rated almost all motives as more important than older

Coaches perceptions of athlete participation motives

athletes (27 in 30). However, if we only consider the rank of the motives as stated by younger and older athletes we found that these differences are not so significant as we thought. In fact, few motives excepted (go to a higher level, meet new friends, be with friends, use equipment and uniforms, improve skills) younger and older athletes did not significantly differ in their ranking participation motives.

TABLE 3. Number of Motives (Average) With Significant Differences Between Athletes and Coaches.

child yes	no	age		teacher	other	academic degree		
		≤30 years	>31 years			sport sciences graduate	student	other
6.5	9.5	7.8	6.5	4.2	6.8	5.0	9.0	7.2

Coaches with more experience and academic degree in sport sciences, and coaches with child had a more aproximated perception of the participation motives of their athletes. Also, coaches who were teachers in their professional lives evidentiased a better knowledge of motives of their athletes.

DISCUSSION AND CONCLUSIONS

One purpose of the present study were the assessment of the main reasons that young people have for participating in sports. In general, our findings that athletes reported skill development, affiliation, competition and physical shape as the more important motives for their sport practice are consistent with findings from previous research (Cruz & Cunha, 1990; Fonseca & Fontáinhas, 1993; Fonseca & Ribeiro, 1994). In our opinion, these results are in line with the characteristics of the analized sample. Since the sport in which the athletes participated was a competitive handball (a sport that require high standards of technical and physical qualities and where individual and colective competitiveness are in great correspondence with success), it is not surprising that athletes indicated affiliation, competition,

Coaches perceptions of athlete participation motives

physycal shape and skill development as more important motives for their participation.

Vanfraechem-Raway (1992) pointed out the importance of coaches' knowledge of their athletes in coach-athlete relationship and team efficacy. Therefore, considering that one of the secrets for obtaining success in sport training process is giving to the athletes "what they need by the way that they like", coaches have to know what their athletes like. However, our results suggest that coaches didn't know very well the participation motives of their athletes. Discrepancy between athletes' and coaches' perspectives there were evident on the more important motives and also on the less important motives.

Coaches who had in their professional lives a high contact with youth (e.g., teacher) and were graduate in sport sciences appear to know better than other coaches the participation motives of their athletes. People who were not graduate in sports sciences but possessed a high experience in the field evidentiatiated a better knowledge about participation motives of their athletes than people who were concluding their graduation in sport sciences but did not have a greater experience in the field. These results seem to suggest that theory is good if we have also a good practice.

In sum, the procedures employed in our study suggest differences in the athlete motives for competitive handball practice stated by athletes and their coaches. This it may be a source of problems in the process of sport training. So, we think that coaches (especially the less experienced) need to know that and need to improve the efficacy of their communication with their athletes. We also believe that sport psychologists could and should help them.

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COACHES' PERCEPTIONS OF ATHLETE PREFERRED LEADERSHIP STYLES: A STUDY WITH A RUGBY NATIONAL TEAM.

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KEYWORDS

Leadership, preferences, athletes, perceptions, coaches, rugby

INTRODUCTION

The relationship between coach and athlete is one of the most important research areas for sport psychologists today. In a first stage, as conceptual framework for their sport leadership investigations, sport psychologists used general leadership theories from other psychology areas (e.g., organizational psychology). However, considering that there are differences between sport and organization leaderships (for more details, see Chelladurai, 1993), Chelladurai et al. (Chelladurai, 1978; Chelladurai & Carron, 1978) have developed their Multidimensional Model of Leadership which has been adopted immediately by a great number of investigators (for more details, see Chelladurai, 1993).

For testing the proposed model, Chelladurai and Saleh (1978, 1980) have created the Leadership Scale for Sports (LSS) which consists of 40 coach leadership behaviors representing five dimensions of leader behavior. These behavior dimensions are Training and Instruction (which include coaching behaviors that aimed the improvement of athlete performances by emphasizing the concern on skills learning, techniques and tactics, clarifying the relationship among team-mates and coordinating group activities), Democratic (which include coaching behaviors that allow larger participation of athletes in decisions concerning to group goals, strategies and practice methods), Autocratic (which include coaching behaviors that involve independent decision making and stresses coach authority), Social Support (which include

coaching behaviors focusing the welfare of athletes and promoting a positive group atmosphere), and Reward or Positive Feedback (which include coaching behaviors that reinforce the athletes by recognizing and recompensing good performance).

The publication of the LSS has motivated the development of research work in different sports such as volleyball (e.g., Serpa & Antunes, 1989), handball (e.g., Serpa et al., 1991), wrestling (e.g., Dwyer & Fischer, 1988), fitness (e.g., Keehner, 1988) or soccer (e.g., Fonseca et al., 1994). However, despite the high number of researches developed in sport contexts, no one has been carried in rugby. Moreover, although some authors (e.g., Vanfraechem-Raway, 1992) have stated the importance of the coach knowledge about their athletes in the coach-athlete relationship and team efficacy, at this moment as we know, only one (Fonseca et al., 1994) has studied the coach perspectives about the athlete preferences of leadership styles.

Therefore, the purpose of this study was twofold: 1) the study of the leadership styles preferred by rugby athletes; 2) the study of the coaches' perceptions of the athlete preferred leadership styles.

METHOD AND PROCEDURE

Subjects

The subjects of this study were the 30 athletes (17-18 years) and the 2 coaches of the junior national team of rugby .

Instruments

The subjects completed a questionnaire which included: a) background information questions (e.g., age and sport experience); b) a validated portuguese translation (Serpa, 1993) of the Leadership Scale for Sports (LSS: Chelladurai & Saleh, 1978; 1980).

The LSS scale contains 40 items describing leadership behaviors and measures five dimensions of leader behavior in sport - training and instruction (13 items), democratic (9 items), social support (8 items), autocratic (5 items), and reward or positive feedback (5 items).

While the athletes responded to the LSS preference version (all items are preceded by the statement "I prefer my coach...") the coaches

Coaches' perceptions of athlete preferred leadership

responded to three different LSS versions. These LSS versions are different only in their preceded statement: "My athletes prefer this coach...", "The ideal for my athletes..." and "I...".

RESULTS

TABLE 1. Leadership behaviors preferred by athletes, according to the athletes. Mean and rank for each dimension.

	Training & Instruction	Democratic	Autocratic	Social Support	Reward
Mean	4.46	3.20	1.95	3.62	3.60
Rank	IS-1°	DS-1°	DS-2°	IS-2°	IS-3°

IS= Interaction Style; DS=Decision Style

Training Instruction behaviors were the most preferred by athletes (see Table 1). Reward or Positive Feedback and Social Support behaviors were also rated highly. Considering the LSS answer scale (*never-always*), we found that athletes wish that these behaviors occurs with a high frequency: Training and Instruction behaviors between *often* and *always*, Social Support and Reward or Positive Feedback behaviors between *occasionally* and *often*.

On the other hand, the decision making behaviors (autocratic and democratic) were the less preferred by athletes, especially the autocratic behaviors. According to their answers, athletes preferred that autocratic behaviors occurs *seldom*.

TABLE 2. Leadership behaviors preferred by athletes, according to their coaches. Mean and rank for each dimension.

	Training & Instruction	Democratic	Autocratic	Social Support	Reward
Mean	4.81	2.83	3.00	4.20	5.00
Rank	IS-2°	DS-2°	DS-1°	IS-3°	IS-1°

IS= interaction style; DS=Decision style

Coach opinions about athlete leadership preferences were different than athlete leadership preferences (see Table 2). For coaches, the athlete most preferred behaviors are those related to Reward or Positive

Coaches' perceptions of athlete preferred leadership

Feedback and Training and Instruction dimensions. Coaches have stated that athletes wish that Reward or Positive Feedback behaviors occurs *always* and Training and Instruction behaviors occurs almost *always*. Decision making behaviors were, also for coaches, the athlete less preferred leadership behaviors. However, according to their answers, athletes preferred autocratic than democratic behaviors.

TABLE 3. Leadership behaviors ideal to the athletes, according to their coaches. Mean and rank for each dimension.

	Training & Instruction	Democratic	Autocratic	Social Support	Reward
Mean	4.88	2.17	3.20	3.75	4.70
Rank	IS-1°	DS-2°	DS-1°	IS-3°	IS-2°

IS= interaction style; DS=Decision style

According to the coaches, the ideal behaviors for their athletes were Training and Instruction behaviors, followed by Reward behaviors (see Table 3). Moreover, in coach perspective, these behaviors should occurs with a high frequency (almost *always*). On the other side, should be placed the behaviors related with the decision making, especially the autocratic behaviors (should occurs *seldom*).

TABLE 4. Real leadership behaviors, according to the coaches. Mean and rank for each dimension.

	Training & Instruction	Democratic	Autocratic	Social Support	Reward
Mean	4.50	2.67	2.90	3.62	4.40
Rank	IS-1°	DS-2°	DS-1°	IS-3°	IS-2°

IS= interaction style; DS=Decision style

In relation to reality, according to the coaches, more frequent leadership behaviors were Training and Instruction behaviors, followed by Reward or Positive Feedback behaviors (see Table 4). The frequency of these behaviors ranged between *often* and *always*. In contrast, decision making behaviors were the less frequents, especially the democratic behaviors. The frequency of these behaviors ranged between *seldom* and *occasionally*.