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The influence of parenting practices and parental presence on children’s and adolescents’ pre-competitive anxiety

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Abstract

We examined parental influence on athletes’ pre-competitive anxiety. The effect of parental presence during competition was studied as was the role of parenting practices. Data were collected from a sample of 341 athletes (201 basketball players and 140 tennis players) before an official competition. Analysis of variance indicated that the presence of both parents was associated with higher levels of pre-competitive anxiety for all participants, except male tennis players. The absence of both parents did not result in lower levels of anxiety. A second set of variance analysis revealed that girl tennis players at provincial and national level perceived higher levels of parental pressure than most other participants. Canonical correlation analysis showed a positive relationship between pre-competitive anxiety and parenting practices for tennis players, but not for basketball players. Directive behaviours and pressure were positively associated with pre-competitive anxiety for all tennis players, whereas praise and understanding was negatively related to anxiety for female tennis players only.
Introduction

Parents have been recognised as critical contributors to their children’s experience in sport. For example, parents’ contributions to the Olympic achievement of elite athletes (e.g. Gould, Dieffenbach, & Moffett, 2002) or parents’ involvement in their children’s day-to-day physical activities have been extensively advocated in the literature (Brustad, 1992; Greendorfer, Lewko, & Rosengren, 1996; Fredricks & Eccles, 2003; Bois & Sarrazin, 2006; Horn & Horn, 2007). However, this has been supported less often by empirical articles. Since the early 1990’s, researchers have started to investigate how and to what extent parents can affect their children’s experience in sport and physical activity. Several theoretical models, including competence motivation theory (Harter, 1999), achievement goal theory (e.g. Nicholls, 1984) and social learning theory (Bandura, 1986) have been used as a basis for these investigations.

The theoretical framework proposed by Eccles (e.g. Eccles [Parsons], Adler, & Kaczala, 1982; Eccles, Freedman-Doan, Frome, Jacobs, & Yoon, 2000) provides a heuristic and thorough examination of social influences on achievement beliefs and behaviours. This model has been used mainly in the academic domain (Jacobs & Eccles, 1992; Frome & Eccles, 1998) as well as in the sports domain (Eccles & Harold, 1991; Fredricks & Eccles, 2002).

This theoretical approach posits that parents’ beliefs and perceptions are based on antecedents such as the gender of their child or their own stereotypes. Important components of parental belief systems include parents’ perceptions of the child’s competencies in various achievement domains, parents’ beliefs about the relative value or importance of various achievement domains (e.g. academic, art, music, sport) and parents’ expectations that their child will attain success in a given
domain. Following the model, parental beliefs and perceptions are hypothesised to influence specific behaviours and climates concerning their children. Some examples of these behaviours are the pattern of interaction with the child, the extent of encouragement, the provision of opportunities and experiences, the affective tonality of the relationship. Eventually, these behaviours affect youngsters’ target variables such as perceived competence, values, expectations of success, affective reactions or sport involvement.

Several studies based on this model have revealed that parents can affect their children’s perceived competence (e.g. Babkes & Weiss, 1999; Bois, Sarrazin, Brustad, Trouilloud, & Cury, 2002) and this can subsequently predict children’s levels of physical activity (e.g. Bois, Sarrazin, Brustad, Trouilloud, & Curry, 2005; Fredricks & Eccles, 2005). Children’s physical activity was also found to be directly influenced by parental modelling (e.g. Freedson & Evenson, 1991). However, although hypothesised in Eccles’s model, parents’ influences on short time consequences such as affective reactions were investigated less frequently (Gould, Eklund, Petlichkoff, Peterson, & Bump, 1991; Collins & Barber, 2005).

The construct of anxiety

Anxiety is generally defined as an emotional response consisting of cognitive concerns and physiological arousal to perceived threat (Smoll & Smith, 1996). Scholars have distinguished between competitive trait anxiety, a relatively stable personality disposition (Martens, 1977) and competitive state anxiety, the symptoms experienced in a particular sporting situation (Simon & Martens, 1979). Subsequently, physiological and cognitive components of anxiety have been conceptualised: somatic anxiety represents the physiological component associated with autonomic arousal (i.e. muscular tension, increased heart rate), whereas
cognitive anxiety relates to negative thoughts, worry and negative expectations (Martens, Vealey, & Burton, 1990). Numerous researchers have investigated the antecedents and consequences of anxiety. Relevant results with regard to the focus of this study indicate that: a) individual sport is associated with higher anxiety than team sport (Simon & Martens, 1979); and b) when gender differences occur females are more likely to indicate higher anxiety levels (Martens et al., 1990; Thatcher, Thatcher, & Dorling, 2004). Parental influence on children’s pre-competitive anxiety was also observed (e.g. Gould et al., 1991) and is detailed below.

**Parental influence on anxiety**

The term parenting practices refers to behaviours defined by specific content and socialisation goals (Darling & Steinberg, 1993, p. 492). It is different from parenting style which is a “constellation of attitudes toward the child that are communicated to the child and create an emotional climate” (Darling & Steinberg, 1993, p. 493) in which the parenting practices are expressed. Parenting style is therefore a more general concept “expressed partly through parenting practices because these are some of the behaviours from which children infer the emotional attitudes of their parents” (p.493). A recent descriptive study (Holt, Tamminen, Black, Mandigo, & Fox, 2009) has emphasised the interest of differentiating parenting practices and parenting styles in the sport domain. Several dimensions of parenting practices have been linked with children’s anxiety in the sport domain. Parental pressure represents the situation where parents push their child hard to compete and/or to win and when parental affection may be conditioned by sport participation and/or results. Perceived parental expectations refer to the level of performance the child thinks their parents are expecting for him/her. Perceived parental importance relates to the extent to which it is important for the parents, as
perceived by the child, that he/she performs well. A final dimension, perceived parental involvement, is the extent to which parents participate in their child’s involvement in sport by allocating him/her time, money and interest.

Historically, parental pressure was the first dimension to be studied (Scanlan & Lewthwaite, 1984): in this study parental pressure predicted pre-match anxiety in 9 to 14 year old wrestlers. Following this line of research, some investigations (Lewthwaite & Scanlan, 1989; Gould et al., 1991) supported the results of Scanlan and Lewthwaite. For example, Gould et al., (1991), with a sample of 202 male wrestlers aged between 13 and 14, found that parental pressure predicted pre-competitive state anxiety. Surprisingly, this line of research remains under-explored. Collins and Barber (2005) used a sample of 416 female field hockey players to examine the relationships firstly between athletes’ pre-competitive anxiety and perceived parental expectations, secondly between athletes’pre-competitive anxiety and perceived parental importance and thirdly between athletes’pre-competitive anxiety and perceived parental involvement. Results indicated that: a) children who perceived their parents to have hold high expectations were more confident than whose who perceived their parents to have lower expectations; b) children who perceived their parents to attribute higher levels of importance to doing well had greater levels of confidence and higher cognitive anxiety than children who perceived their parents to place less importance on doing well; c) no relationship was found between levels of perceived parental involvement and pre-competitive anxiety.

In essence, research investigating parental influence on children’s anxiety emphasises the role of parental pressure and importance on doing well in promoting pre-competitive anxiety. However, higher perceived parental importance and expectations were associated with greater self-confidence. Hence, when investigating
parental influence either specific dimensions have been used (i.e. parental perceptions of children’s competence, parental values toward sport, parental ideas about the importance of doing well and parental expectations) or more general constructs (pressure, involvement) have been used. At this point, research on parental influence suffers from lack of congruence in the definition and assessment of parenting practices and lack of systematic assessments of parental influence on children’s target variables such as anxiety. One of the goals of this study is to focus on the effect of several dimensions of parenting practices on children’s pre-competitive anxiety, which has been poorly explored in the literature of parental influence.

Based on the observation that different dimensions of parenting practices were assessed differently across studies, some researchers started to develop a specific tool to assess parenting practices (Lee & MacLean, 1997; Wuerth, Lee, & Alfermann, 2004). The parental involvement in sport questionnaire (PISQ; Lee & MacLean, 1997) evaluates children’s perceptions of four dimensions of parenting practices: active involvement, directive behaviour, praise and understanding, and pressure (see method section for a definition of these concepts). To our knowledge the parental involvement in sport questionnaire has not yet been used as a predictor of child outcome variables. Lee and MacLean (1997) investigated desired and exhibited parental behaviours, as assessed by the parental involvement in sport questionnaire in a sample of 82 male and female adolescent competitive swimmers. This procedure enabled them to compute discrepancy scores indicating excessive directive behaviours and pressure, insufficient praise and understanding but satisfactory active involvement (there were no discrepancies between desired and exhibited parental behaviour).
Wuerth et al., (2004) used the parental involvement in sport questionnaire with 193 young athletes (aged 10 to 20) of various disciplines and both of their parents. Parental involvement was assessed a first time by all the members of the triad and a second time one year later by the athlete only. Youngsters’ phases of career development were also assessed. Results indicated significant differences of parenting practices between athletes at different phases of career development: beginners perceived significantly more directive behaviours, more pressure but also more praise and understanding than athletes in phases of development or mastery. Significant results also emerged with regard to the position of the family member: athletes’ perceptions of parental involvement differed from their parents’ view, but mothers’ and fathers’ perspectives also differed from each other. Mothers reported more praise and understanding than fathers but fathers reported higher directive behaviours and pressure. Athletes indicated less parental pressure and support than their parents.

A final variable of interest with regard to family influence is parental presence during competition. When talking with coaches it is often acknowledged that the performance of children and adolescents is affected by the presence of fathers, mothers or the family in general. Zajonc’s (1965) social facilitation theory has for a long time proposed that the presence of others can increase arousal for the performer. This arousal is then supposed to facilitate the occurrence of the dominant response. Some authors (Cottrell, Wack, Sekerak, & Rittle, 1968) have argued that arousal is enhanced only if others can evaluate performance. As this is certainly the case for parents attending their children’s sport performance we believe that parental presence during competition should be taken into account when studying youngsters’
pre-competitive anxiety. However, to our knowledge, no study has yet examined this possibility.

In this study we provide new information by: a) examining the influence of parental presence during competition; b) comparing parental influence between an individual sport (tennis) and a team sport (basketball); c) investigating the influence of various dimensions of parenting practices, as assessed by the parental involvement in sport questionnaire, on children’s pre-competitive anxiety. Three main hypotheses were formulated. Hypothesis 1 focuses on the variations of pre-competitive anxiety according to gender, sport and parental presence. Specifically, we expected girls to be more anxious than boys, tennis players to be more anxious than basketball players, competitors to be more anxious when someone is present compared to a situation where nobody is attending the competition, and competitors to be more anxious when both parents are present compared to any other situation. No specific hypothesis was made concerning the effect of the presence of a mother or a father alone. Hypothesis 2 examines the variations of parenting practices according to gender, activity and performance level. Due to the absence of any studies in these areas, this question was considered as exploratory and no specific hypothesis was made. Hypothesis 3 evaluates the effects of the parenting practices dimensions on pre-competitive anxiety. Parental pressure and directive behaviours were expected to affect anxiety positively, whereas praise and understanding were thought to influence anxiety negatively. No specific hypothesis was made for active involvement.

Method

Participants

The sample comprised 201 basketball players (99 boys and 102 girls, mean age 14.23, SD = 1.72, age range 9 to 18) and 140 tennis players (78 boys and 62 girls,
mean age 13.46, SD = 2.34, age range 10 to 18). Athletes trained an average of 2.7 times (SD = 1.64) a week for an average of 4.8 hours (SD = 2.99). They competed at local (n = 152; average training hours/week = 3.1), provincial (n = 134; average training hours/week = 5.5) or national level (n = 54; average training hours/week = 7.6). The participant sample comprised primarily middle and upper-class families. In terms of family structure, 80% of the children lived in two parent homes, whereas 20% lived in single-parent homes. Two participants chose not to report any information about their family structure.

**Procedure**

Basketball and tennis players were contacted first through their clubs. The participants and the coaches were informed of the general goal of the study, in particular the necessity to assess anxiety a few minutes before a real competition. For players and teams interested in the study, parental and participant consent forms were given to the child to complete at home and to return to the club one week later. During the second meeting, a decision was made about the date when the questionnaire would be filled in. Different competitions (regional tournaments or regular championships) were used as a basis for the investigation and questionnaires were filled in by the participants between one hour and thirty minutes before competition. The project was approved by the ethics committee of the first author’s university.

**Measures**

**Anxiety.** The French version (Debois & Fleurance, 1998) of the Competitive State Anxiety Inventory (CSAI-2, Martens et al., 1990) was used to assess pre-competitive anxiety. Only the cognitive and somatic anxiety scales were used in this
study. Internal consistency was satisfactory for cognitive anxiety (Cronbach $\alpha = 0.88$) as well as somatic anxiety ($\alpha = 0.80$).

*Parenting practices.* The parental involvement in sport questionnaire (PISQ; Lee & MacLean, 1997; Wuerth et al., 2004) was used to assess parental behaviour within the sport context. In its original version, this questionnaire assessed 4 dimensions: the active involvement scale, composed of five items, evaluates parental activity in the club either during competition or practice (e.g. do your parents take an active role in running your club?); the directive behaviours scale, with ten items, measures the extent to which parents control their children’s behaviour in sport (e.g. before a contest do your parents tell you how to do your competition?); the praise and understanding scale, with four items assesses parental behaviours such as praise and empathy (e.g. after a contest do your parents praise you for trying hard?); the pressure scale consisted of a unique item (e.g. do your parents put pressure on you concerning your sport?). Wuerth et al. (2004) proposed a four item assessment of this construct that estimates the extent to which parents push their child to compete and/or to win. The questionnaire was first translated using the back translation method (Brislin, 1986). Then some items were slightly reworded to fit with both the context of basketball and tennis. Eventually as proposed by Wuerth et al., (2004) some new items were generated for the pressure scale to enhance psychometric properties of this assessment. However, to keep the length of the questionnaire reasonable, we also chose to remove three of the directive behaviours scale items (originally composed of ten items). Hence the French version of the parental involvement in sport questionnaire used in this study was composed of twenty items: five items for the active involvement scale, seven items for the directive behaviours
scale, four items for the praise and understanding scale and four items for the pressure scale.

To test for the construct validity of the scale, a principal component analysis was first conducted with varimax normalised rotation. Only factors explaining at least 5% of variance and items with a loading of .40 or more were retained (Guttman, 1954; Vallerand, 1989). This resulted in a four factor solution with 14 items, each item contributing only to one factor with a loading over .40. Factor 1 consisted of the 4 pressure items and explained 22.05% of variance. Factor 2 comprised three praise and understanding items and explained 15.75% of variance. Factor 3 was composed of three active involvement items and explained 11.78% of variance. Factor 4 had four directive behaviours items and explained 18.1% of variance. Subsequently, a confirmatory factor analysis, using covariance matrix and maximum likelihood method of estimation was performed with Lisrel 8.54. The model provided a good fit to the data and supported the construct validity of the questionnaire: $\chi^2(71, N = 341) = 125.25, p < .001$, root mean square error of approximation (RMSEA) = .047, goodness of fit index (GFI) = .95, nor-normed fit index (NNFI) = .98, standardized root mean square residual (SRMR) = .051. Cronbach coefficients were .87, .80, .58, .82 respectively for pressure, praise and understanding, active involvement and directive behaviours scales.

Parental presence. Each participant indicated who was present at the target competition used for the study. Participants completed a four-point response format: 1 for father only, 2 for mother only, 3 for both parents and 4 for none.

Demographic information. Diverse information was collected: participants’ age and sex, current family structure, the number of practice sessions for their sport per week, the number of hours of basketball/tennis per week, competition level (1
local, 2 provincial, 3 national, 4 international). Only one player participated at an international level and was therefore excluded when competition level was used in the subsequent analysis.

Results

Data analysis

Descriptive statistics and preliminary data analysis were first performed. Analysis of variance (ANOVA) was then used to investigate the effects of participants’ gender, activity and parental presence on levels of anxiety. A second ANOVA was used to study the variation of parenting practices according to gender, activity and performance level. Finally, canonical correlation analysis was completed to evaluate the influence of parenting practices on participants’ pre-competitive anxiety.

Descriptive statistics and preliminary analysis

Means and standard deviation of the variables are displayed, by gender and sport, in Table 1.

----------< Insert Table 1 here > ----------

Hypothesis 1: testing the effects of gender, sport and parental presence on child anxiety.

A multivariate analysis of covariance (MANCOVA) was used to test the influence of participants’ gender, sport and parental presence on their pre-competitive somatic and cognitive anxiety. Age and performance level were used as covariates. There were significant main effects of gender (Wilks $\Lambda (2, 322) = .94, p < .001$) and sport (Wilks $\Lambda (2, 322) = .89, p < .001$), although the parental presence main effect was not significant (Wilks $\Lambda (6, 644) = .96, p > .05$). The two-way interaction between
gender and sport was significant (Wilks $\Lambda (2, 322) = .98, p < .05$) as well as the three-way interaction (gender $\times$ sport $\times$ parental presence; Wilks $\Lambda (6, 644) = .95, p < .05$). The other interaction effects were not significant. Group means are displayed in Figure 1 for basketball players and in Figure 2 for tennis players.

The hypotheses that girls would be more anxious than boys and that tennis players would be more anxious than basketball players were rejected because of the presence of the three-way interaction effect, which indicates a more complex pattern of relationships. Examination of the univariate effects of the three-way interaction effect revealed non-significant results for cognitive anxiety ($F_{3,323} = 2.01, p > .05$) and for somatic anxiety ($F_{3,323} = 1.05, p > .05$). We used contrast analysis to test for more specific hypotheses as proposed by some authors (e.g. Rosenthal & Rosnow, 1985). The first specific hypothesis proposed that players are more anxious when one or two parents is/are watching compared to the situation where nobody is attending the competition. We used a contrast (-1, -1, -1, 3) grouping the three categories (father alone, mother alone, both parents) against the last one (none). This contrast was tested for the 4 participant categories: female basketball players, male basketball players, female tennis players and male tennis players. The multivariate effect of this contrast was not significant across all four participant categories. The second specific hypothesis stated that the most anxious situation would be when both parents are attending the competition. Another contrast (-1, -1, 3, -1) grouping the father alone, mother alone and none groups against the both parents group was used to test for this hypothesis across the four participant categories. The multivariate effect was

--------< Insert Figure 1 and 2 here > ---------
significant for three groups out of four: for female basketball players Wilks $\Lambda (2, 322) = .976, p < .05$, univariate effects indicated significant differences for cognitive anxiety ($F_{1,323} = 7.99, p < .01; \eta^2 = .024$) with girl basketball players in the presence of both parents reporting more anxiety compared to the mean of the three other groups. For male basketball players the contrast was also significant: Wilks $\Lambda (2, 322) = .977, p < .05$; univariate effects indicated significant differences for somatic anxiety ($F_{1,323} = 4.5, p < .05; \eta^2 = .014$) with boy basketball players reporting more anxiety when both parents are present compared to the mean of the three other groups. For female tennis players the contrast was also significant: Wilks $\Lambda (2, 322) = .98, p < .05$; univariate effects indicated significant differences for somatic anxiety ($F_{1,323} = 5.24, p < .05; \eta^2 = .016$) with girl tennis players reporting more anxiety when both parents are present compared to the mean of the three other groups. Hence the second specific hypothesis was supported except for male tennis players.

According to Cohen’s (1988) interpretation guidelines an eta square value ($\eta^2$) of .01 indicates a small effect, .09 indicates a medium effect and .25 indicates a large effect. Hence the effects reported in this analysis can be considered as small.

**Hypothesis 2: are parenting practices different across gender, activity and performance level?**

A MANCOVA was used to test for this hypothesis: the four parenting practices variables were used as dependant variables; gender, activity and performance level were the independent variables and age was used as a covariate. Results indicated significant main effect of activity (Wilks $\Lambda (4, 324) = .92, p < .001$) and performance level (Wilks $\Lambda (8, 648) = .90, p < .001$). Gender main effect was marginally significant (Wilks $\Lambda (4, 324) = .97, p = .053$). The three-way interaction (activity x gender x performance level) was significant (Wilks $\Lambda (8, 648) = .94, p < .01$).
Examination of the univariate effects of the three-way interaction revealed a significant effect for the pressure dimension ($F_{2,327} = 4.06, p < .05, \eta^2 = .024$) and a marginally significant effect for praise and understanding ($F_{2,327} = 2.91, p = .056, \eta^2 = .018$). According to Cohen (1988), these effects can be considered as small. For the pressure dimension (see Figure 3) Tukey HSD post hoc comparisons revealed that girl tennis players at provincial level (N=22, M = 3.25) had significantly higher scores than all other groups, except female tennis players at national level. This last group (N=21, M = 2.42) presented higher scores than male basketball players at provincial level and all the other male and female players at local level. For praise and understanding, no significant differences were found.

Hypothesis 3: testing the relationships between parenting practices and pre-competitive anxiety

Canonical correlation analysis was used to estimate the relationships between parenting practices and pre-competitive anxiety. Cognitive and somatic anxiety were used as criterion variables and the four parenting practices variables served as predictors. Four canonical analyses were performed corresponding to the four participants categories: male and female basketball players, male and female tennis players. For male basketball players, the multivariate relationship was not significant: Wilks’ $\Lambda = .96, \chi^2 (8) = 3.7, p > .05, r_c = .18$. This was also the case for female basketball players: Wilks’ $\Lambda = .92, \chi^2 (8) = 7.75, p > .05, r_c = .23$. A significant multivariate relationship was found for male and female tennis players, where only the first canonical variate was significant (see Table 2). For
interpretation, canonical loadings of .3 or higher are considered to be significant (Tabachnick & Fidell, 1996). For male tennis players, the function indicated that cognitive and somatic anxiety were positively related to directive behaviour and pressure \( (r_c = .55) \). The redundancy index for the criterion variables was 23%, which is higher than the 10% recommended as a significant and meaningful cutoff for interpretation (Pedhazur, 1982). For female tennis players, results indicated that cognitive and somatic anxiety were positively associated with directive behaviour and pressure and negatively associated with praise and understanding \( (r_c = .70) \). The redundancy index for the criterion variables was 42%.

Discussion

The influence of parents on their children’s experience and achievement in the sports domain is widely acknowledged (Bois & Sarrazin, 2006; Horn & Horn, 2007). This study provides new perspectives on this topic by focusing on some under-explored variables: athletes’ pre-competitive anxiety and parenting practices. To our knowledge, the effect of parental presence was also investigated for the first time. More specifically, we had three main goals: a) to examine the variation of athletes’ pre-competitive anxiety in relation to their gender, their sport and the presence of their parents during competition; b) to investigate possible variations of parenting practices across gender, sport and performance level; c) to study the relationships between parenting practices and athletes’ pre-competitive anxiety.

*Effects of gender, sport and parental presence on children’s pre-competitive anxiety*
We examined gender, sport and parental presence effects on athletes’ pre-competitive anxiety using MANCOVA, with age and performance level as covariates. A first hypothesis proposed that girls would be more anxious than boys. The results do not support this hypothesis as gender effect appears dependent on sport and parental presence. It was also anticipated that tennis players would present higher levels of anxiety compared to basketball players. For the same reason, interaction with gender and parental presence, this hypothesis was not supported. Most importantly, the three-way interaction was significant, thus indicating that parental presence acts in conjunction with gender and sport in affecting athletes’ pre-competitive anxiety. In order to more precisely understand this complex interaction, and to test for two specific hypotheses, contrast analysis (Rosenthal & Rosnow, 1985) was used. The hypothesis that athletes are less anxious when no parent is present compared to any other situation was not supported. Thus, it seems that parental absence during competition does not limit anxiety before competition. However, when testing the second specific hypothesis, it was found that athletes were significantly more anxious when both parents were present. This result was supported for male and female basketball players and for female tennis players only. Hence it seems, as supposed by many coaches, that parental presence does affect emotional reactions. However, although the presence of both parents appears to be a factor increasing pre-competitive anxiety, except for male tennis players, the absence of both parents was not associated with lower levels of pre-competitive anxiety. It is likely that competition in itself constitutes a stimulus that increases pre-competitive anxiety. Therefore, even in the absence of both parents, it is likely that anxiety remains relatively high and makes it difficult to observe an effect of parental absence because this is mixed with the effect of competition itself. In any case, this is the first
to our knowledge, that that there has been an attempt to estimate the effect of
the presence of parents during competition. Our results are consistent with social
facilitation theory (Zajonc, 1965) which proposes that the presence of an audience
enhances arousal. More research is needed to support this finding and/or to extend
these results to other populations. Applications of these results are important for
parents deeply involved in their children’s achievement in sport. Whatever may be
the influence of pre-competitive anxiety on performance, the presence of both
parents during the competition seems to constitute a factor of anxiety for athletes,
especially for girls.

Parenting practices variations across gender, sport and performance level

Another aim of the study was to provide descriptive information on the parenting
practices of the athletes. Due to its exploratory nature no specific hypotheses were
made on this point. The results of a MANCOVA revealed a significant three-way
interaction (gender x sport x performance level), thus showing a variation of the four
dimensions of parenting practices. For the pressure dimension, it appears that female
tennis players at provincial and national level perceived significantly higher levels of
pressure from their parents than most of the other groups. This result is consistent
with Wolfenden and Holt’s (2005) study on elite tennis athletes. These authors report
the presence of parental pressure for elite adolescent tennis players and indicate that
this could be a consequence of parental over-involvement. It seems that female tennis
players at relatively high levels of performance might be a group at risk, given that
this study shows that they experience higher levels of parental pressure. Hence, they
might be more likely to experience higher levels of anxiety, consistent with the
results of hypothesis 1 and 3. However, further investigation is needed to confirm
these results.
It was hypothesised that directive behaviours and pressure would have facilitative effects on anxiety whereas praise and understanding would have a protective effect. No specific hypothesis was made for parental involvement. In general, the results support the hypotheses. Canonical correlation analysis revealed significant relationships between parenting practices and anxiety for male and female tennis players although no significant results emerged for male and female basketball players. Directive behaviours and pressure were positively related to anxiety for all tennis players, whereas praise and understanding was negatively associated with anxiety, but only for female tennis players. The facilitative effect of parental pressure on athletes’ anxiety is consistent with the existing literature (Scanlan & Lewthwaite, 1984; Lewthwaite & Scanlan, 1989; Gould et al., 1991; Wolfenden & Holt, 2005).

This result raises concerns about the potential negative role of parents when they put pressure on their children. Excessive parental interest in their children’s achievement in sport may lead to maladaptive behaviours with negative consequences such as a decrease in motivation and enjoyment, negative emotional experience and this may lead to children dropping out of sport altogether.

Another potentially negative role of parents can be explored by studying their controlling behaviours. By excessive use of controlling behaviours parents can also foster negative emotional experience in sport. It is interesting to note that this dimension is moderately correlated with pressure ($r = .49$). High directive behaviours could then be another aspect of negative patterns of parenting practices. Negative influences of these two dimensions can be understood in relation to self-determination theory (Deci & Ryan, 2002). In general, controlling behaviours diminish intrinsic motivation by preventing satisfaction of the need for autonomy,
which, according to Deci and Ryan (2002), is one of the three basic psychological needs. Lack of autonomy and intrinsic motivation may then lead to negative emotional experience such as anxiety and potentially poorer performance. For example, in a cognitive task Grolnick, Gurland, DeCourcey and Jacob (2002) demonstrated that mothers’ controlling behaviours negatively predicted their children’s performances. It is not possible to discuss any such effects on performance in this study, since this variable was not assessed. Nevertheless, the negative contribution of parents to their children’s affective experience in sport is in itself very useful for its potential applications. No matter how passionate parents are, or how involved they are in their children’s achievement, they should be aware of their potentially counterproductive behaviours. Finally, it is noteworthy that the highest scores on somatic and cognitive anxiety were obtained by girl tennis players and they also reported the highest scores on directive behaviours and pressure (see table 1). This was also revealed by the relatively high association between parenting practices and anxiety in the canonical correlation analysis ($r_c = .70$).

At this point, the results discussed only show a role of parenting practices in increasing athletes’ anxiety in tennis players. However children’s perceptions of praise and understanding behaviours from parents were likely to protect youngsters from anxiety in the case of female tennis players. Although the influence of praise and understanding behaviours on anxiety has not been examined in previous studies, some consistencies can be found. Some studies found parental support to be positively related to pleasure and motivation (Leff & Hoyle, 1995; Hoyle & Leff, 1997); other studies positively linked parental encouragement and perceived competence (Brustad, 1993, 1996). In essence, these results seem congruent and indicate that when parents support and encourage, showing interest and
understanding, they foster positive experience in relation to their children’s participation in sport. However, it was unexpected that only female tennis players would benefit from perceived praise and understanding behaviours. It is possible that due to personality differences, female tennis players are more sensitive than male tennis players to parenting practices. Their higher scores compared to males, on the scales of neuroticism and extraversion (Schmitt, Realo, Voracek, & Allik, 2008) may reflect a more significant emotional sensibility and explain why they can be affected both positively and negatively by parenting practices. Nevertheless, this interpretation does not hold for female basketball players. With regard to the differentiated results between basketball and tennis we believe this is probably due to the opportunities these activities offer for parents to participate in their children’s sport activity. In collective sports such as basketball, the team usually provides transportation for the players, or it is provided by some of the parents on a rotating basis. However, for tennis players, due to the individual nature of the sport, parents are more likely to be present during competition since transportation is rarely collective. Hence parents of tennis players probably have more opportunities to affect their children. This important difference is probably the origin of the non significant relationship between parenting practices and anxiety in basketball players. These players are more sensitive to parental presence, as indicated by hypothesis 1, which is more unusual for them than for tennis players. We speculate that this activity effect supersedes the gender differences in personality that are usually used to explain differences between male and female tennis players.

With regard to the influence of parental involvement, no significant relationship with anxiety was found, which is consistent with the results of the study of female hockey players by Collins and Barber (2005). This might indicate that
involvement does not matter very much in itself and that the way involvement is shown by parents (e.g. presence, encouragement, directive information) is more important for short time reaction such as pre-competitive anxiety.

Although special attention was given to methodological aspects in this study, some limitations have to be acknowledged. Due to the nature of the hypotheses tested and to the correlational design that was chosen, the results must be interpreted cautiously. Causality influences of either parental presence or parenting practices could only be inferred from an experimental design. Hence, even if several control variables (e.g. age, competition level, sex, type of sport) were used, future studies with an experimental design are necessary to support our results.

Conclusion

The overall purpose of this investigation was to study parental influence on anxiety. The effect of parental presence on youngsters’ pre-competitive anxiety was investigated for the first time to our knowledge. The results justify the interest of this line of research by revealing that athletes are more anxious when both parents are present, with the exception of male tennis players. The influence of parenting practices on anxiety was also examined. Results confirm the positive effect of parental pressure as well as directive behaviours on anxiety. Negative influence of parental praise and understanding on anxiety was also revealed indicating that some parental behaviour could favour positive experience in sport. One has to note however that anxiety should not be seen as essentially negative since its relationship with performance is generally weak and can even be positive for elite athletes (Craft, Magyar, Becker, & Feltz, 2003). These results highlight the ambivalent nature of parental influence (mostly favouring anxiety) on their children’s sport experience.
References


Table 1: Means and standard deviation of the variables by gender and sport.

<table>
<thead>
<tr>
<th></th>
<th>Basket</th>
<th></th>
<th>Tennis</th>
<th></th>
<th></th>
<th></th>
<th>Range</th>
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<tbody>
<tr>
<td></td>
<td>Boys</td>
<td></td>
<td>Girls</td>
<td></td>
<td>Boys</td>
<td>Girls</td>
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<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>14.17</td>
<td>1.65</td>
<td>14.30</td>
<td>1.79</td>
<td>13.37</td>
<td>2.25</td>
<td>13.55</td>
</tr>
<tr>
<td>Cognitive Anxiety</td>
<td>1.91</td>
<td>0.60</td>
<td>2.41</td>
<td>0.70</td>
<td>2.15</td>
<td>0.75</td>
<td>2.45</td>
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<tr>
<td>Somatic Anxiety</td>
<td>1.72</td>
<td>0.49</td>
<td>1.93</td>
<td>0.59</td>
<td>2.11</td>
<td>0.61</td>
<td>2.48</td>
</tr>
<tr>
<td>Directive Behaviour</td>
<td>2.43</td>
<td>1.10</td>
<td>2.47</td>
<td>0.96</td>
<td>2.58</td>
<td>1.19</td>
<td>2.90</td>
</tr>
<tr>
<td>Active Involvement</td>
<td>3.00</td>
<td>1.03</td>
<td>3.25</td>
<td>1.03</td>
<td>2.42</td>
<td>0.88</td>
<td>2.77</td>
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<tr>
<td>Praise and understanding</td>
<td>3.35</td>
<td>1.04</td>
<td>3.58</td>
<td>0.88</td>
<td>3.44</td>
<td>0.97</td>
<td>3.20</td>
</tr>
<tr>
<td>Pressure</td>
<td>1.75</td>
<td>0.86</td>
<td>1.68</td>
<td>0.88</td>
<td>1.69</td>
<td>0.84</td>
<td>2.41</td>
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<tr>
<td>Number of practice/week</td>
<td>2.80</td>
<td>1.12</td>
<td>2.54</td>
<td>1.10</td>
<td>2.27</td>
<td>1.94</td>
<td>3.39</td>
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<tr>
<td>Number of hours/week</td>
<td>5.58</td>
<td>2.30</td>
<td>4.92</td>
<td>2.24</td>
<td>3.40</td>
<td>3.32</td>
<td>5.16</td>
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</table>
Table 2: Canonical loadings, percents of variance, redundancies and canonical correlations between anxiety and parenting practices for male and female tennis players

<table>
<thead>
<tr>
<th>Criterion variables</th>
<th>Male tennis players&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Female tennis players&lt;sup&gt;b&lt;/sup&gt;</th>
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</thead>
<tbody>
<tr>
<td>Cognitive anxiety</td>
<td>-.81</td>
<td>-.92</td>
</tr>
<tr>
<td>Somatic Anxiety</td>
<td>-.93</td>
<td>-.92</td>
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<tr>
<td>Percents of Variance</td>
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<td>.85</td>
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<tr>
<td>Redundancy</td>
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<td>.42</td>
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</table>

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Male tennis players&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Female tennis players&lt;sup&gt;b&lt;/sup&gt;</th>
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</thead>
<tbody>
<tr>
<td>Directive. Behavior</td>
<td>-.74</td>
<td>-.38</td>
</tr>
<tr>
<td>Active Involvement.</td>
<td>-.11</td>
<td>.05</td>
</tr>
<tr>
<td>Praise / Understanding</td>
<td>.19</td>
<td>.64</td>
</tr>
<tr>
<td>Pressure</td>
<td>-.73</td>
<td>-.93</td>
</tr>
<tr>
<td>Percents of Variance</td>
<td>.28</td>
<td>.35</td>
</tr>
<tr>
<td>Redundancy</td>
<td>.09</td>
<td>.18</td>
</tr>
</tbody>
</table>

| Canonical Correlation| .55 | .70 |

*Note:* <sup>a</sup> Wilks’ $\Lambda = .68$, $\chi^2 (8) = 27.99$, $p < .001$; <sup>b</sup> Wilks’ $\Lambda = .49$, $\chi^2 (8) = 41.10$, $p < .001$
Figure 1: Cognitive and somatic anxiety of basketball players by gender and parental presence.

Figure 2: Cognitive and somatic anxiety of tennis players by gender and parental presence.
Figure 3: Pressure means by activity, gender and performance level.