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United States parents' perfectionism, parenting styles and perceptions of specialization in youth sport

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ABSTRACT

Objectives: This study examined parents' perceptions of sport specialization within the sampling years of the Developmental Model of Sport Participation (DMSP) (Côté, 1999). Specifically, this study explored if and how parents' perceptions of sport specialization vary as a function of their own levels of perfectionism and self-reported parenting style.

Design: Cross-sectional survey.

Method: Self-report questionnaires were administered to 203 parents of youth sport athletes (ages 6-12) from a range of sports. These questionnaires assessed parents' perceptions of sport specialization as well as their own levels of perfectionism and parenting style.

Results: Cluster analytic procedures resulted in the identification of four groups of parents who varied from each other in parenting style (permissive, authoritarian, authoritative) and perfectionism (self oriented, socially prescribed, other oriented). MANOVA procedures used to compare the four cluster groups on their perceptions of sport specialization revealed that parents who were in the high permissive and high socially prescribed perfectionism cluster as well as the high authoritarian and high overall perfectionism cluster reported greater support of sport specialization when compared to participants in the high authoritative, moderate self-oriented perfectionism cluster.

Conclusion: Overall, study findings provided support for the idea that parents' perceptions of sport specialization are influenced by their parenting style and personal levels and types of perfectionism.

1. Introduction

Today, in the United States, increased attention has been placed on the identification and development of "talented" athletes who have the potential to become elite and successful at the highest levels of their sport (Baker, Cobley, Schorer, & Wattie, 2017). Recent reviews suggest the pathway towards reaching an elite level in sport is not necessarily simple nor clearly defined (Coutinho, Mesquita, & Fonseca, 2016; Johnston, Wattie, Schorer, & Baker, 2018). While there is no exclusive formula or method to explicitly develop their child into elite athletes (Bailey & Collins, 2013), many parents dedicate a significant amount of time, money, and energy in hopes of providing an opportunity to reach a specific level of expertise in sport (Côté, 1999; Dunn, Dorsch, King, & Rothlisberger, 2016; Wendling, Flaherty, Sagas, & Kaplanidou, 2018).

Accordingly, as the climate of youth sport continues to evolve, there is concern amongst researchers and practitioners regarding the

"professionalization" of youth sport, because participation is becoming increasingly privatized, expensive, performance-oriented, and highly structured in terms of practice and competition schedules (Brenner, 2016). Given these participation trends, the literature suggests that growing numbers of parents and coaches believe that the best way to produce talented young athletes is to have them engage in a practice known as specialization (Malina, 2010). Previous literature has included numerous descriptions of this phenomenon, including year-round participation, exclusion of other sports, specific training regimens and competition schedules (i.e. greater than 8 months per year), and pre-pubertal (seventh grade or roughly 12 years) children (Jayanthi, Pinkham, Dugas, Patrick, & LaBella, 2012; LaPrade et al., 2016).

There are numerous possibilities for youth athletes to specialize (e.g., local club teams, travel teams, interscholastic competitions), creating a year-round demand for constant training and participation. However, explicit support of specialization is scarce in the youth sport

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literature as several organizations (e.g., International Olympic Committee) and medicine federations (e.g., American Orthopedic Society for Sports Medicine) have discouraged its practice due to the unfavorable consequences that have been reported in the sport and medical literature (Côté, Lidor, & Hackfort, 2009; DiFiori et al., 2014; LaPrade et al., 2016).

Specialization has been described as a primary antecedent of child dropout from sport (Côté et al., 2009) and has also been linked to adverse effects in areas such as physical health and growth (e.g., overuse injury) (Bell et al., 2016), motor development (Goodway & Robinson, 2015), and psychosocial development (e.g., decreased sport enjoyment, unidimensional identity) (Law, Côté, & Ericsson, 2007; Strachan, Côté, & Deakin, 2009). Therefore, diversified sport participation (involvement in sport spread across multiple activities) has been primarily supported in the literature as a facilitative option for youth athlete development in most sports (Brenner, 2016; Côté et al., 2009; LaPrade et al., 2016).

2. Conceptual framework

The Developmental Model of Sport Participation (DMSP) (Côté, 1999) was used a conceptual framework for this study because the model highlights not only the processes, pathways, and outcomes associated with sport development but also the psychosocial influences a child may encounter throughout his or her participation (Côté & Vierimaa, 2014). The DMSP includes three stages known as the “sampling years” (ages 6–12), “specializing years” (ages 13–15), and “investment years” (ages 16+). The current study focuses on the “sampling years” of the DMSP. Côté et al. (2009) contend that sampling various sports allows children to experience different social interactions with their peers and reinforces the adaptation of emotional and self-regulating skills that can be positively invested in a single sport later down the road. During this stage, parents have the responsibility of providing a wide array of opportunities for multiple sport involvement.

While the DMSP guidelines pertaining to the “sampling years” suggest children should engage in multiple sports with an emphasis on fun and enjoyment, parents do not always select this pathway for their child to develop effective talent in sport. Malina (2010) contends one of the main causes of sport specialization is the perception of parents that concentrating on a single sport will allow his or her child to get ahead of, or at the very least, keep up with peers in the athletic domain. Given this information, the results of this study are compared to the DMSP, specifically with parent perceptions of sport specialization during the sampling years.

Certainly, more research is needed to examine the influence parents have on their child’s youth sport experience, particularly in regard to their endorsement or lack of endorsement of specialization in sport. Many times, children’s specialized participation is tied to aspirations of achieving elite level status and the pursuit of the eventual rewards, which may not be achievable without the constant support and cooperation of their parent(s) (Clarke & Harwood, 2014; Knight & Holt, 2014; Wolfenden & Holt, 2005). Of growing concern is the issue of overbearing parents who demand excellence in sport from their child in order to gain higher economic status or potential rewards while ignoring the possible adverse physical and psychological effects of sport specialization (Jayanthi et al., 2012). Importantly, we recognize parents are not the only influence on their child’s youth sport experience (e.g., consider peers and coaches) (Weiss & Kipp, 2018; Wendling et al., 2018). However, during this time (ages 6–12 years), parents are an immediate source of performance-related feedback (Fredricks & Eccles, 2004), and are thus the focus of this study.

Considering this information, two dimensions of parental influence that may be important to examine relative to children’s sport participation are the parents’ level of perfectionism and the parenting styles they use. These form the basis for the current study and thus are reviewed in the following sections.

3. Parent perfectionism

It can be hypothesized that when parents focus on achieving elite level status for their child, they can become vulnerable to the “perfection infection”, where setting extremely high standards for oneself (or others) and a tendency to be overly critical in evaluating performance can lead to the creation of an endless loop of unfulfilling accomplishments, because perfectionism is impossible to permanently achieve. Today, perfectionism is considered a multidimensional personality characteristic that reflects compulsive striving for flawlessness (Hall, 2019). Within the field, a controversial issue has been whether dimensions of perfectionism have adaptive or maladaptive consequences for an individual. Sport researchers have described and debated the paradoxical effects of perfectionism (Flett & Hewitt, 2016; Gotwals, Stoeber, Dunn, & Stoll, 2012; Hall, 2016, 2019; Jowett, Mallinson, & Hill, 2016).

The current study concentrates on what are considered “maladaptive” dimensions of perfectionism in parents of youth athletes. These dimensions include: self oriented perfectionism (excessive striving and demanding absolute perfection in the self), other oriented perfectionism (demanding perfection from other people), and socially prescribed perfectionism (the perception that other people demand perfection from oneself) (Hewitt & Flett, 1991).

Recently, it has been suggested that the evidence that exists in relation to perfectionism and performance outcomes in sport has been primarily studied in the case of elite athletes and high achieving performers (Madigan, Stoeber, & Passfield, 2015). Moreover, emphasis has been placed on the experiences of the performer, with little to no research examining perfectionism in the youth sport context from a parental perspective (Ablard & Parker, 1997). This is unfortunate, because today in sport, there seems to be an inherent need for parents to relive their youth through their child. When this occurs, parents may expect perfection (i.e., other-oriented perfectionism), which can lead them to tie their own ego or image to their child’s sport performance (Appleton, Hall, & Hill, 2010).

As parent perceptions regarding the benefits of specialization (i.e., allows the child to get ahead of, or at least keep up with his or her peers) continue to grow (Malina, 2010), the current study highlights the importance of investigating parent’s perfectionism levels. Parent perfectionist behaviors (i.e., setting extremely high standards, striving for flawlessness, overly critical of performance) should be examined as they could be a primary source related to why children either pursue diversified or specialized paths into and through their sport years.

4. Parenting styles

Another important consideration regarding parent involvement in their child’s youth sport experience is their unique parenting styles. Parenting style is described as a combination of attitudes toward the child that are communicated from the parent to the child to create an emotional climate in which the parents’ behaviors are expressed and the child’s behavior is influenced (Darling & Steinberg, 1993). Baumrind’s work on parenting styles has been particularly influential in the developmental psychology literature (Baumrind, 1971). Baumrind distinguishes among three general parenting styles: authoritarian, permissive, and authoritative.

Authoritarian parents tend to be highly directive in trying to shape and control their children’s behavior through placing high maturity demands (e.g., expectations for achievement) on their children, while not tolerating unsatisfactory behavior. Permissive parents tend to make fewer demands on their children, use little punishment, and do not take an active role in shaping their children’s behavior. Authoritative parents are apt to fall somewhere in between these two extremes. They attempt to guide; by providing clear and firm direction for their children in a rational, issue-oriented manner through “induction” (i.e., discussing and providing explanation for their rationale). Research on

parenting styles has consistently shown that authoritative parenting is associated with successful outcomes in many areas of development (Durkin, 1995; Kuppens & Ceulemans, 2019; Pomerantz, Grolnick, & Price, 2005).

Studies have illuminated the positive and negative impact of one's parenting style on their child's youth sport experience (Holt, Tamminen, Black, Mandigo, & Fox, 2009). Overall, this research indicates that children infer information that they view as valuable about their parents' beliefs, behaviors, and goals. Holt et al. (2009) asserts this information in turn influences a child's psychosocial development. Accordingly, as more pressure is placed on children to be successful elite athletes, participation in sport becomes less of an individual undertaking than a family project.

The information provided has highlighted the importance of parenting in the youth sport context within the social milieu of family life and has led us to the current gap in literature regarding the lack of focus on parent attitudes (i.e., parenting styles) and personality characteristics (i.e., levels of perfectionism), which may influence their child's youth sport participation. Taken together, currently, we do not know whether one's parenting styles and levels of perfectionism influence parents' endorsement or lack of endorsement of sport specialization.

The primary purpose of this study was to examine if and how parents' perceptions of sport specialization differ as a function of their own self-reported levels of perfectionism (self oriented, socially prescribed, other oriented) and parenting styles (authoritative, permissive, authoritarian). Based on the research and theory previously reviewed, it was hypothesized that parents' perceptions of sport specialization would vary as a function of their own parenting styles and levels of perfectionism. In particular, it was expected that parents who are high in perfectionism and an authoritarian parenting style would support sport specialization, while parents who are lower in perfectionism and higher in an authoritative parenting style would be less apt to support sport specialization.

5. Method

A quantitative, cross-sectional design was used to conduct this study. Specifically, a person-centered approach (von Eye, Bergman, & Hsieh, 2015) was used to identify distinct clusters of parents who exhibit similar profiles in regard to levels of perfectionism and parenting styles and then to determine if such groups differed in their perceptions of sport specialization within the sampling years of the DMSP (Côté, 1999).

5.1. Participants

Participants were recruited from a university recreational center, which hosts various organized sport programs and competitions for youth athletes across the Midwestern United States. A total of 221 participants were approached to participate in this study. Eight refused to participate and ten were eliminated due to incomplete self-report questionnaires. The final sample included 203 parents (71 males, 132 females; M age = 42.87, SD = 5.44) of youth sport athletes. Youth sport athletes (91 males, 111 females; M age = 9.85, SD = 1.78) were sons or daughters between the ages of 6 and 12 years old participating in ice hockey, figure skating, or swimming. Gender ratios for the children by sport were as follows: five female ice hockey players; 45 male ice hockey players, 72 female swimmers; 46 male swimmers, and 34 female figure skaters; one male figure skater. These sports were chosen because they typically provide the opportunity for specialization or year-round opportunity for competition.

The number of parents with children participating in each sport were as follows: 50 ice hockey parents, 35 figure skating parents, and 118 swim parents. There were 185 parents who had personal sport experience and 18 parents who had no sport experience with the level of sport participation ranging from no sport experience to professional.

Of the total sample, 35 parents had participated in youth/middle school sport (6–15 years), 107 parents participated at the high school level, 37 parents participated at the collegiate level, and six parents participated at the professional level.

As for their child's current sport participation, 66.5% of parents indicated that their child does currently participate in more than one sport during the year and 33.5% of parents indicated that their child does not currently participate in more than one sport during the year (M = 2.5, SD = 0.715). In addition, the number of months out of the year the child currently participates in his or her primary sport ranged from 2 to 12 months (M = 9.56, SD = 2.19). Parents were also asked to indicate the number of practices per week their child attended, which ranged from 1 to 7 days (M = 3.43, SD = 1.25), the number of competitions per week, which ranged from 1 to 5 competitions (M = 1.40, SD = 0.645), and the number of weeks this participation lasted during the year, which ranged from 1 to 52 weeks (M = 21.92, SD = 15.14). Overall, these means indicate that a youth sport athlete in this study typically participates in two sports, for nine months, practicing three times a week, competing once a week, for 21 weeks a year.

5.2. Procedure

Approval to conduct this study was received from the Committee on the Use of Human Subjects in Research at the authors' home institution. Participants were approached in-person after receiving approval from the coaches and/or directors of the youth sport teams of interest. Before beginning participation, parents completed an informed consent process. Paper copies of the questionnaires were randomized in order of completion and distributed to parents on site during a break in their child's practice or competition. This was a one-time data collection at the beginning or early part of their child's sport season. Three particular self-report instruments were included in this questionnaire to measure the variables of interest to the study. These are described in the following sections.

5.2.1. Perceptions of Sport Specialization Scale (PSSS)

To measure parents' perceptions of sport specialization, the Perceptions of Sport Specialization Scale (PSSS) (DiSanti, 2015) was used. This scale is comprised of twenty-five items scored from 1 to 4 (i.e., 1 = strongly disagree; 2 = disagree, 3 = agree, 4 = strongly agree) and was developed to assess individuals' perceptions of sport specialization as a practice used in sport for children and adolescents. Items were identified based on an extensive review of the literature on the topic of early sport specialization and were specifically designed to explore recommendations of the DMSP (Côté et al., 2009). Following development of the scale items, a content validation check was performed using experts on the topic. The instructions for parents completing the questionnaire specifically defined specialization as "an investment in a single sport through systematic training and competition, typically including year-round participation in that sport, to pursue proficiency and enjoyment in a 'signature' activity" (Vealey & Chase, 2016, p. 216). Using that definition, participants were then asked to respond to questionnaire items that were structured to obtain their perceptions of the sport specialization process for children and adolescents. Importantly, understanding these children were in the sampling years (6–12 years) now, but that time period would inform decisions later (high school sport participation) (e.g., "high school athletes can only be successful if they train and compete year-round in sport"; "athletes who specialize in one sport experience more burnout than athletes who specialize in multiple sports in high school").

Because the PSSS is a recently developed scale, the parents' responses in this study were subjected to a principal axis factor analysis to determine the structure underlying the parents' perceptions of sport specialization. Initial factors were extracted using a minimum eigenvalue of 1.0 (See Table 1).

Table 1
Factor loadings for exploratory factor analysis of PSSS.

Scale Item	Factor 1 Pro Specialization	Factor 2 Negative Perception of Specialization	Factor 3 Multiple Sport Participation	Factor 4 Specialization for Talent Development
4. High school sport athletes should specialize in one sport.	.76			
1. All athletes should specialize in one sport by the time they reach high school	.70			
11. Specializing in one sport is the best choice for all high school athletes	.69			
25. Specializing in one sport is the best option for those participating in high school sport	.52			
7. Athletes who specialize in one sport are more likely to have an enjoyable sport experience than athletes who participate in multiple sports in high school	.51			
3. High school athletes can only be successful if they train and compete year-round in sport	.40	-.75		
20. Athletes who specialize in one sport experience more burnout than athletes who participate in multiple sports in high school		.71		
23. Specializing in one sport can lead to overuse injuries and mental fatigue.		-.48		
2. Coaches pressure athletes to participate in only one sport		.42		
9. Specializing in one sport takes away from high school athletes' ability to enjoy other activities in high school			.68	
17. Participation in more than one sport can help an athlete be more successful in his or her favorite sport			.56	
16. All athletes in high school should have the option of participating in multiple sports			.47	
12. A more effective model for high school sport participation is to encourage athletes to participate in multiple sports and activities.			.45	
8. If it were entirely up to athletes, they would choose to participate in more than one sport in high school			.41	
15. If it were up to parents, athletes would participate in more than one sport in high school				-.58
24. Only athletes who have the talent and motivation to seek college or elite athlete status should specialize in one sport in high school				.56
6. High school athletes who specialize in one sport are more skilled than their teammates who participate in multiple sports				.54
22. It is impossible to fully develop an athlete's talent if she/he doesn't specialize in one sport in high school.				.43
13. High school teams that include athletes who specialize in that sport will be more successful than teams with athletes who participate in multiple sports.				
Eigenvalue	3.24	2.07	2.01	2.01
Percent Variance	12.97%	8.30%	8.05%	8.04%

Note. Factor loadings > 0.40 are provided. PSSS = Perceptions of Sport Specialization Scale.

Examination of the scree plots and the factor loadings revealed the presence of four conceptually distinct factors. To interpret the factors, loadings were examined using a criterion value of 0.40. Nineteen of the 25 total items loaded on one of the four factors. Six of the items did not load on any of the factors. Thus, these items were not used in the interpretation of the factors.

Factor one (6 items) reflected a positive perception of sport specialization by the parent (e.g., “All athletes should specialize in one sport by the time they reach high school.”) and was thus labeled “Pro Specialization.” Factor two (4 items) described a more negative but also mixed perception of sport specialization with high value on notions that sport specialization may cause overuse injuries, mental fatigue and inability for athletes to enjoy other activities in high school. This was combined with low ratings on items linking sport specialization to higher levels of burnout and on coaches’ pressuring athletes to specialize. Overall, this factor was labeled “Negative Perception of Sport Specialization.” Factor three (5 items) reflected a position that supported multiple sport participation for the youth athlete (e.g., “Participation in more than one sport can help an athlete be more successful in her or his favorite sport”) and was labeled “Pro Multiple Sports.” Finally, Factor four (4 items) suggested a perception that specialization leads to talent development (e.g., “It is impossible to fully develop an athlete’s talent if she/he doesn’t specialize in one sport in high school.”) and was labeled “Specialization for Talent Development.” Factor scores for each study participant were computed and used in subsequent analyses as a measure of the parents’ perceptions of sport specialization. Cronbach’s alpha coefficients, calculated using the items loading highly on each subscale, ranged from .70 to .85, indicating an acceptable internal consistency for the four subscales.

5.2.2. Multidimensional Perfectionism Scale (MPS)

Parent perfectionism was assessed using 45-item Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991). The MPS measures three dimensions of perfectionism: self oriented (SOP), socially prescribed (SPP), and other oriented (OOP). Using a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) participants rated statements such as “I have high expectations for the people who are important to me” (OOP), “When I am working on something, I cannot relax until it is perfect (SOP), and “The people around me expect me to succeed in everything I do” (SPP). After reverse-scoring items as needed, responses were averaged to calculate scores for each form of perfectionism, with higher scores reflecting higher levels of perfectionism. Previous research has shown the MPS has acceptable levels of internal consistency (Cox, Enns, & Clara, 2002) and represents theoretically meaningful relationships between the three subscales and other measures of perfectionism (Cox et al., 2002; Hewitt & Flett, 1991). The internal consistency for the three subscales in the current study was acceptable (alphas ranged from 0.82 to 0.87). Inter-correlations among the MPS subscales ranged between 0.25 and 0.40, thus demonstrating some degree of overlap. These results suggest that perfectionism dimensions have acceptable internal consistency and that the subscales share some variance.

5.2.3. Parental Authority Questionnaire (PAQ)

An adapted version of the Parental Authority Questionnaire (PAQ; Buri, 1991) was completed by participants. Items were modified so that parental prototypes could be measured from the point of view of the parent. The PAQ consists of 10 authoritarian e.g., “Even if my child doesn’t agree with me, I feel that it is for his/her own good if I force them to conform to what I think is right”, 10 permissive (e.g., “I feel that in a well-run home the child should have his/her way in the family as often as the parents do”), and 10 authoritative (e.g., “I direct the activities and decisions of my child through reasoning and discipline”) five-point Likert statements ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Each of these definitions was based on Baumrind’s

(1971) definitions of authoritarian, permissive, and authoritative parental prototypes. The participants scores were obtained by summing the individual items (i.e., permissive, authoritarian, authoritative) from each subscale score and all items for an overall score. PAQ scores on each subscale range from 10 to 50, with higher scores indicating a greater level of the parenting style prototype measured (Buri, 1991). The reliability coefficients for the current study suggest good reliability for the three PAQ subscales as follows: authoritarian ($\alpha = 0.82$), permissive ($\alpha = 0.79$), and authoritative ($\alpha = 0.77$), similar to the original measure which ranged from $\alpha = 0.74$ to $\alpha = 0.87$ (Buri, 1991).

5.3. Statistical analyses

Obtained data were coded, collated, and analyzed using Version 25 of the IBM statistical package for the Social Sciences (SPSS). Procedures specified by Tabachnick and Fidell (2012) regarding multivariate data sets were implemented. Specifically, scores for all study variables were initially screened for univariate (standardized z-scores) and multivariate (Mahalanobis distance) outliers. Based on these procedures, no outliers were identified, and the final sample used in the study analyses was comprised of 203 individuals.

Univariate correlational analyses were conducted to examine the degree of correlation between the study variables and to identify any possible multicollinearity issues. To test the study hypotheses, cluster analyses procedures were used to identify groups of parents who shared similar profiles in relation to their scores on the PAQ and MPS. Then, multivariate analyses of variance procedures were conducted to compare the clusters on their views of sport specialization.

The primary purpose of this study was to examine if and how parents’ perceptions of sport specialization differ as a function of their own levels of perfectionism (self oriented, socially prescribed, other oriented) and self-reported parenting styles (authoritative, permissive, authoritarian). This purpose was assessed using a person-centered rather than variable-centered approach. In a variable-centered approach, multivariate correlation or regression procedures would be implemented to assess the relationship between the identified study variables across all participants. Conversely, in a person-centered approach, study participants are first categorized into groups based on their scores from the scales assessing the MPS and PAQ variables, with each group containing those who exhibit a similar profile to one another. These profile groups can then be compared in terms of the outcome variables of interest (e.g., perceptions of sport specialization).

Following the two-step procedures outlined by Hair, Black, Babin, and Anderson (2010), subscales scores from the MPS and the PAQ were standardized. Then, a hierarchical cluster analysis, using Ward’s method of cluster formation with squared Euclidian distance measures was conducted to determine the number of clusters that best fit the data. This analysis indicated that a four-cluster solution was the most appropriate. As a second step, a k-means cluster analysis was then conducted, and the results provided verification of the four-cluster framework.

To examine whether these four cluster groups of parents varied in their perceptions of sport specialization, a multivariate analysis of variance (MANOVA) was conducted to compare the four cluster groups on their subscale scores from the PSSS. In the event of a significant multivariate main effect, follow-up univariate and discriminant function results were examined.

6. Results

6.1. Descriptive statistics

Descriptive statistics (means, standard deviations, and obtained range) for all study variables are provided in the bottom rows of Table 2 (PAQ, MPS, and PSSS variables).

Table 2
Descriptive and correlational data for MPS, PAQ, and PSSS variables.

	MPS SO	MPS OO	MPS SP	PAQ Permissive	PAQ Authoritarian	PAQ Authoritative	PSSS Pro Spec	PSSS Negative Spec	PSSS Pro Multi	PSSS Spec Talent
1. MPS SO	–									
2. MPS OO	.54**	–								
3. MPS SP	.54**	.45**	–							
4. PAQ Permissive	-.04	-.07	.22**	–						
5. PAQ Authoritarian	.25**	.22**	.26**	-.10	–					
6. PAQ Authoritative	.16*	-.01	-.14*	-.23**	-.12	–				
7. PSSS Pro Spec	-.00	.04	.18**	.26**	.20**	-.21**	–			
8. PSSS Negative Spec	-.09	.04	.12	-.10	.03	-.10	.10	–		
9. PSSS Pro Multi	-.05	-.01	.08	.14*	.02	-.28**	.42**	.13	–	
10. PSSS Spec Talent	-.01	.01	.14*	.23**	.18**	-.26**	.66**	-.07	.35**	–
Mean	4.65	3.92	3.41	2.07	2.94	3.99	1.90	2.48	1.96	2.15
SD	1.00	.73	.76	.53	.61	.43	.58	.34	.48	.63
Obtained Score Range	1.3–7.0	2.1–5.7	1.2–6.0	1.0–4.3	1.4–4.5	2.7–4.9	1.0–4.0	1.5–3.5	1.0–3.2	1.0–4.0
Possible Score Range	1–7	1–7	1–7	1–5	1–5	1–5	1–4	1–4	1–4	1–4

*p < .05 **p < .01.

As this data shows, means for the PAQ and the MPS subscales were all around the midpoint (a “3” on a 5-point response format). However, the standard deviation values and the obtained range of scores indicated inter-individual variability in the parents’ responses. The means of the four new computed subscales for the PSSS were all below the midpoint (a “2.5” on a 4-point response format). However, again, there appeared to be considerable variability within the sample as indicated by the standard deviation and range scores.

6.2. Correlational analyses

A series of univariate Pearson correlational analyses were conducted to provide an initial and preliminary assessment of the strength of the relationship between the three sets of variables in this study. Results of this data (see Table 2) indicate that the three MPS subscales were moderately and positively correlated with each other (r-values ranging from +0.45 to +0.54), while the PAQ subscales exhibited negative but low correlation with each other (r-values ranging from –0.12 to –0.23). The set of four PSSS subscales also showed low to moderate association with each other (–0.07 to +0.66.). Finally, there was some degree of correlation between all subscale scores (r-values ranging from –0.28 to +0.26). However, because the degree of positive and negative associations was at a low to moderate level, this information suggests there is not high multicollinearity within the data. Therefore, the use of cluster analysis to identify categories or groups of parents who vary in their profile on these intrapersonal process variables is warranted.

6.3. Cluster analyses

As noted earlier, the two-step cluster analyses (based on Hair et al.,

2010) resulted in the identification of a four-cluster framework that represented four sets of parents who differed from each other in their scores on the six subscales from the PAQ and the MPS. Descriptive data (means, standard deviations, and z-scores) for the four clusters are presented in Table 3.

To verify that the four cluster groups did differ significantly from each other, a follow-up MANOVA was conducted to compare the four cluster groups on the six variables representing the parenting style and perfection subscales. Results revealed a significant difference between the groups, Pillai’s Trace = 1.34 F(18, 588) = 26.27, p < .00, eta² = 0.45. Examination of the individual F-values for all six variables (see columns in the far right of Table 3) shows that the cluster groups differed significantly on all of the clustering variables. These results, then, provide evidence that the four cluster groups represent significantly different parenting profiles. As the values in Table 3 show, participants in the High Permissive and Socially Prescribed Perfectionistic Cluster 1 scored very high on the permissive parenting style and socially prescribed perfectionism (z-scores at or above 0.42). Conversely, these participants scored lower in all other PAQ and MPS variables (z-scores at or below –0.11). Participants in the Moderate Permissive and Low Perfectionistic Cluster 2 scored low on authoritarian and authoritative (z-scores at or below –0.29) and at a moderate level on the permissive parenting style (z-scores at 0.06). This group is also distinguished by very low scores on the MPS perfectionistic subscales (z-scores at or below –1.12). In contrast, participants in the High Authoritarian and Perfectionistic Cluster 3 scored very high on the authoritarian parenting style (z-scores at 0.59) and on all perfectionistic subscales (z-scores at or above 0.67). Finally, participants in the High Authoritative and Moderate Self-Oriented Perfectionistic Cluster 4 scored very high on authoritative (z-scores at 0.60), moderate in self-oriented (z-scores at –0.05), and low on all others (z-score at or

Table 3
Cluster group results: Descriptive data and follow-up univariate F-value comparisons.

PAQ and MPS Variables	Cluster 1, High Permissive, High Socially Prescribed, Low in all Others (n = 31), mean (SD), and z-score	Cluster 2, Moderate Permissive, Low in all Others (n = 24), mean (SD), and z-score	Cluster 3, High Authoritarian, High in all Perfectionism (n = 73), mean (SD), and z-score	Cluster 4, High Authoritative, Moderate Self Oriented, Low in all Others (n = 75), mean (SD), and z-score	F(df = 3, 199)	Eta ²
PAQ: Permissive	2.69 (.61) z = 1.18	2.10 (.47) z = .06	2.05 (.40) z = –.04	1.83 (.41) z = –.46	27.56	.29
PAQ: Authoritarian	2.87 (.61) z = –.11	2.63 (.56) z = –.51	3.30 (.47) z = .59	2.71 (.57) z = –.37	17.81	.21
PAQ: Authoritative	3.60 (.45) z = –.91	3.87 (.47) z = –.29	3.93 (.32) z = –.14	4.25 (.34) z = .60	25.68	.28
MPS: Self Oriented	4.24 (.51) z = –.41	2.92 (.78) z = –1.73	5.45 (.63) z = .79	4.60 (.63) z = –.05	103.42	.61
MPS: Other Oriented	3.68 (.50) z = –.33	3.10 (.49) z = –1.12	4.49 (.62) z = .78	3.73 (.55) z = –.26	46.26	.41
MPS: Socially Prescribed	3.73 (.37) z = .42	2.23 (.52) z = –1.55	3.92 (.58) z = .67	3.16 (.55) z = –.32	69.80	.51

NOTE: All univariate F-values were significant at p < .00

Table 4
Differences between the cluster groups on PSSS subscale scores.

PSSS Subscales	Cluster 1, High Permissive and Socially Prescribed Perfectionistic (n = 31), mean (SD)	Cluster 2, Moderate Permissive and Low Perfectionistic (n = 24), mean (SD)	Cluster 3, High Authoritarian and Perfectionistic (n = 73), mean (SD)	Cluster 4, High Authoritative and Moderate Self Oriented Perfectionistic (n = 75) mean(SD)	Univariate F-value Df = 3199	Eta ²	Post-hoc scheffe comparisons
Pro Specialization	2.13 (.55)	1.85 (.57)	2.02 (.62)	1.71 (.51)	5.72*	.08	1, 3 > 4
Negative Specialization	2.40 (.32)	2.53 (.36)	2.50 (.34)	2.49 (.33)	.92	.01	
Pro Multiple Sports	2.14 (.32)	1.91 (.54)	1.95 (.51)	1.90 (.48)	1.96	.03	
Specialization for Talent Development	2.46 (.46)	2.06 (.66)	2.24 (.67)	1.96 (.58)	6.04*	.08	1, 3 > 4

*p < .00

below -0.26) (see Table 3).

The cluster results indicate that the different constructs used in this study to assess parents' parenting styles and level and type of perfectionism at the global level load together as participants within each cluster group scored similarly on all variables. Furthermore, the eta² values in the far right column in Table 3 indicate considerable separation between the four cluster groups in their scores on the PAQ and MPS variables. Based on Cohen, 1988 specifications for interpretation of effect sizes, the parents in the four cluster groups exhibited small-sized differences on the three subscales from the PAQ and medium-sized differences on the three subscales from the MPS. Therefore, it seems that the four clusters of parents are quite different from each other in their profiles on these parenting style and perfectionism measures.

6.4. Comparison of clusters on Perceptions of Sport Specialization Scale (PSSS)

To test the hypothesis that parents with children in the sampling years (6–12 years old) of the DMSP (Côté, 1999) will vary in their perceptions of sport specialization as a function of their levels of perfectionism and parenting style, a one-way MANOVA was conducted to compare the four cluster groups on sport specialization subscales. The independent variable for this analysis was cluster group, and the dependent variables were the four factor-based subscales derived from the PSSS assessing parents' perceptions of sport specialization.

Results indicated a significant cluster group main effect, Wilk's Lambda = .87, F(12, 518) = 2.28, p < .01, eta² = 0.04. Examination of the parameter estimates and univariate F-values (see descriptive data and univariate F-values presented in Table 4) indicated that the cluster groups differed significantly on two of the PSSS-based subscales (the first and the fourth). Scheffe post hoc comparisons (using p < .01 as a criterion value) revealed that parents in the High Permissive and Socially Prescribed Perfectionistic Cluster 1 as well as parents in the High Authoritarian and Perfectionistic Cluster 3 reported greater support of sport specialization than did their peers in the High Authoritative Moderate and Self-Oriented Perfectionistic Cluster 4. Furthermore, both parents in the High Permissive and Socially-Prescribed Perfectionistic Cluster 1 and parents in the High Authoritarian and Perfectionistic Cluster 3 indicated significantly higher support for specialization for talent development than did parents in the High Authoritative and Moderate Self-Oriented Perfectionistic Cluster 4.

As shown in Table 4, the four cluster groups of parents did not exhibit any differences on the second and third subscales from the PSSS. Thus, it appears that parents' perceptions regarding the negative aspects of sport specialization and the positive dimensions of multiple sport specialization do not differ as a function of their parenting style and level of perfectionism. In addition, parents in Cluster 2 (Moderate Permissive, Low Perfectionistic) did not differ from the other three groups in their PSSS scores (See Table 4).

As a general summary, it does appear that the four clusters of parents representing different types of parenting styles and levels of perfectionism do vary with regard to their perceptions of sport specialization. Thus, findings support the notion that parenting styles and perfectionism levels assessed at the global level are related to perceptions of sport specialization in the youth sport context.

7. Discussion

The primary purpose of this study was to examine if and how parents' perceptions of sport specialization differ as a function of their own levels of perfectionism (self oriented, socially prescribed, other oriented) and self-reported parenting styles (authoritative, permissive, authoritarian). This overall purpose was assessed through administration of self-report questionnaires to a sample of youth sport parents to measure the variables of interest.

Data analytic procedures began with a factor analysis of the scale used in this study to assess parents' perceptions of the sport specialization process and revealed four discrete factors that reflected different views of the process. Factor 1 included items displaying a generally positive perception of specialization in sport (e.g., "high school athletes should specialize in one sport") while items in Factor 2 suggested a more negative perception (e.g., specialization is linked to higher injuries and mental fatigue). Factor 3 items depicted a positive perception of multiple sport participation (e.g., "participation in more than one sport can help an athlete be more successful in his or her favorite sport"), and items in Factor 4 focused on the notion that sport specialization may be the right choice particularly for talented athletes (e.g., "it is impossible to fully develop an athlete's talent if she/he doesn't specialize in one sport in high school"). These results suggest that parents' perceptions of specialization may not be unidimensional in nature but rather may reflect a more nuanced or multidimensional perspective.

Following this, a cluster analysis was conducted which revealed four distinct groups of parents who significantly differed from each other in their levels of perfectionism and parenting style. These four cluster groups were then compared on their perceptions of sport specialization. Findings showed significant differences indicating that parents' levels of perfectionism and parenting style are related to their perceptions of sport specialization.

While we do know that parents are substantially involved in their children's sport experiences (Dorsch, Smith, Wilson, & McDonough, 2015; Dunn et al., 2016; Knight & Holt, 2014) it is not clear how parents' involvement in their child's youth sport experience influences their perceptions of sport specialization. The current study provides perspective regarding how parental perfectionism and parenting styles influence perceptions of specialization in youth sport, which may be helpful for expanding future research in this area of study.

One particularly intriguing finding that emerged from the cluster analyses involved parents in the High Authoritarian and Perfectionistic cluster who reported greater support of sport specialization when compared to parents in the High Authoritative and Moderate Self Oriented Perfectionistic cluster. These results suggest parents who are more controlling, generally make decisions for their child, and show high overall perfectionism are more likely to support sport specialization. Authoritarian parents focused on controlling their child with expectations of perfectionism from both themselves and others, may in turn believe that specialization is the best choice to ensure success in their child's given sport. If a child is successful in their sport endeavors, this can act as an ego boost for the parent and cause them to feel as if they are the reason for their child's accomplishments (Appleton et al., 2010). Moreover, because these parents are highly controlling, their children most likely learn that they do not have a say in what they want to do, especially at an age in which parents are the primary socializers, interpreters, and providers of their child's youth sport participation (Fredricks & Eccles, 2004). Hence, children may rely on their parents who believe that specialization is the best choice for them in terms of youth sport participation and talent development.

In contrast, parents in the High Authoritative and Moderate Self Oriented Perfectionistic cluster reported lower support for sport specialization. Authoritative parents (i.e., being demanding of, and responsive to children) are associated with positive outcomes such as overall sport satisfaction and high mastery orientation (Juntumaa, Keskivaara, & Punamäki, 2005), and healthy perfectionism (Sapieja, Dunn, & Holt, 2011). Based on the correlational findings, parents did not show significant levels of socially prescribed or other oriented perfectionism, meaning they do not believe others expect perfection from them nor expect perfection from others. Because these parents only strive and demand perfection from themselves (Hewitt & Flett, 1991), and have reasonable expectations of their child (Baumrind, 1971), they may not be inclined to support sport specialization because it focuses on refining specific skills related to a single sport the child is

participating in (Vealey & Chase, 2016). Moreover, these parents may realize their child needs meaningful experiences and freedom to learn new skills, which diversified youth sport participation has been found to provide in comparison to single sport specialization (Côté et al., 2009).

Like parents in the High Authoritarian and Perfectionistic cluster, parents in the High Permissive and Socially Prescribed Perfectionistic cluster also reported greater support of sport specialization. These findings are particularly interesting given the distinct differences between the permissive (e.g., "I feel that in a well-run home the child should have his/her way in the family as often as the parents do") and authoritarian parenting style (e.g., "I do not allow my child to question any decision I make"). However, the correlational findings helped to make sense of these results as permissive parents not only supported sport specialization but were also found to be supportive of multi-sport participation. Thus, we can argue that permissive parents (high in warmth; low in control) may be indifferent towards specialization and diversification in sport, based on the fact that these types of parents tend not to take an active role in shaping or determining their child's behavior (Baumrind, 1971). Therefore, it is possible that permissive parents allow their child to determine whether or not he/she would like to participate in a single sport or multiple sports during their youth sport experience.

A final intriguing implication based on our results involves the Authoritarian and High Perfectionistic cluster. Previous research has found that children with controlling and perfectionistic parents are more likely to be overly critical of themselves, a problem that may have long-term consequences for the child in the future (Flett, Hewitt, Oliver, & Macdonald, 2002; Hong et al., 2017). Specifically, Flett et al. (2002) contend a child's proclivity towards perfectionism is determined by a range of parental factors such as one's parenting style. Highlighting the multifaceted nature of parental influence, this model purports that a parent's goals and practices, personality characteristics, and the style of parenting contribute to a number of pathways that underpin the development of perfectionism.

One pathway of particular interest is the idea that children tend to imitate their caregiver's perfectionism (Flett et al., 2002). When we consider a parent described as authoritarian with high levels of perfectionism, Flett's conceptual model would suggest these parents can expose their child to perfectionistic behaviors, which may lead the child towards modeling their mother or father and in turn develop similar tendencies. This is an issue in regard to youth sport participation because parents who focus on high expectations and success for their child may be unconsciously (or consciously) teaching their child that perfectionism is important for achievement (Hall, 2019). As such, a child may learn at a very young age that being flawless in a single sport is highly valued, resulting in potential negative consequences (i.e., skill proficiency, overuse injury, psychological wellbeing) (Bell et al., 2016; Jayanthi et al., 2012; Côté et al., 2009). This information might be useful for sport psychology practitioners who are working with youth athletes who exhibit very high levels of perfectionism, which could perhaps be linked to their parents' beliefs and attitudes (Eccles & Harold, 1991).

The findings above highlight the significant relationships between parent levels of perfectionism, parenting styles, and perceptions of sport specialization. While this information is valuable, it's important to note that only using correlational data to view the variables of interest does not provide a holistic understanding of parent behaviors and their perceptions of children's sport participation pathways (single vs. multi-sport). Therefore, this study extended the literature by conducting cluster analytic procedures to understand how participant perfectionism and parenting style characteristics grouped together can predict perceptions of sport specialization.

Perfectionism in relation to the parent-child relationship is especially relevant today in sport, as the experience of young athletes is often shaped, in part by their caregivers (Horn & Horn, 2007). Often

times, parents are highly involved in youth sport, and are an immediate source of performance-related expectations and feedback for their child (Fredricks & Eccles, 2004). While many parents exert a positive influence over their child, other parents contribute to a constellation of personality characteristics in their child that are less than desirable (Dorsch et al., 2015; Gould, Lauer, Rolo, Jannes, & Pennisi, 2006; Holt & Knight, 2014). We argue that one of these more negative personality characteristics that influence a parent is perfectionism. When a parent has high levels of perfectionism, his or her expectations may be presumably high for not only themselves but for their child as well. Parents with high perfectionism and high expectations may contribute to the reasoning behind why one supports specialization for their child, as helping their child become elite and achieving success is very important to them.

Parenting styles are also important to consider as they reflect a global set of attitudes and values that are transmitted to the child across a variety of settings and contexts (Sapieja et al., 2011). Baumrind's (1971) authoritarian, permissive, and authoritative parental prototypes are each categorized by different levels of demandingness and responsiveness expressed by the parent. Hence, depending on how an individual identifies in terms of their parenting style, paired with one's level of perfectionism, can determine the strength of the relationship with parents' perceptions of sport specialization. Based on the study findings, examining perfectionism levels and one's parenting style together produced key findings that support the complexity of youth sport parenting and the need to be sensitive to a range of perceptions and behaviors, rather than single variables in isolation (Holt et al., 2009).

7.1. Limitations and future directions

While our results provide an initial understanding of parental perfectionism, parenting styles and perceptions of sport specialization, they must be considered within the context of our study's limitations. First, the PSSS is in an early stage of development. Thus, more psychometric work is needed to further delineate the subscales and verify the factor structure.

Results were also considerably descriptive in nature (self-report surveys) and examined the relationship among parent variables (perfectionism and parenting styles) and perceptions of sport specialization within a cross-sectional design. Thus, the nature of the significant relationships found among variables is correlational only. Causality cannot be determined and the relationship among these variables is likely dynamic and reciprocal (Vallerand & Lalande, 2011). Moreover, we do not know if parent perceptions of sport specialization reflect their actual behaviors towards this practice in youth sport. Future research using mixed methodological designs (i.e., surveys and interviews) assessing parent perceptions of and actual behaviors towards specialization may provide greater insight into the more specific nature of their child's sport participation practices (i.e., specialization and/or diversification).

This study only collected data from one parent of each household. Previous research suggests when sons and daughters excel in sports, their success is directly attributed to parents, especially fathers (Coakley, 2006). In addition, youth sports are often viewed as a fatherly "duty", that men prioritize for their children (Kay, 2007). Given this information, it is possible that a mother and a father figure in the same household held different perceptions of sport specialization for their child. Future research will benefit from exploring the role of mothers and fathers on their child's youth sport participation as this could lead to a greater understanding regarding who specifically may be making the decision to specialize their child into sport.

Kanters, Bocarro, and Casper (2008) argued that it is important to evaluate the level of parent-child agreement related to parental support and pressure when predicting important affective outcomes (e.g., overall enjoyment, efficacy expectations) in sport. While our study did not explore parental support and pressure in sport, we would argue it is

important that future research explores the level of parent-child agreement regarding perceptions of sport specialization through parent-child dyads, to understand if incongruence exists between a parent and child's respective views. Furthermore, if incongruence does exist, future research can examine how this affects children's outcomes in their respective sport participation pathways (e.g., specialization and/or diversification).

Because this study only examined data from one country and geographic region, additional research is needed to examine parents' perceptions of sport specialization across other contexts, cultures and sports. Holt et al. (2019) suggest parenting influences vary based on such factors (e.g., race, ethnicity, gender, context, sport). Thus, it is important that future research consider this information to extend the literature in our field. Last, within the youth sport context, parents are certainly not the only individuals that influence a child's sport experience, especially when considering athletic talent identification and development (Keegan, Spray, Harwood, & Lavallee, 2010). In particular, the quality and appropriateness of the coaching environment is a major factor that influences all athletes throughout their athletic careers (Bloom, 1985). Therefore, examining other relevant social agents, such as coaches, would be promising to investigate if and how a coach's perception of specialization might influence a child's proclivity towards specialized or diversified sport participation.

8. Conclusion

The current work is the first study that examines parent perceptions of their own levels of perfectionism and parenting styles in relation to perceptions of sport specialization. Our findings suggest support for the idea that parents grouped by level of perfectionism and parenting style are linked to perceptions of specialization in the youth sport context. Understanding a parent's perfectionism level and parenting style could prove to be an optimal way in determining the type of parent that would be more likely to endorse sport specialization. This is important, because parent perceptions of sport specialization may influence the ways parents support and/or pressure their child's sport choice and participation. Accordingly, this information provides a basis of knowledge for identifying parent perceptions of sport specialization, which may allow researchers and practitioners to better understand how this impacts a child's overall youth sport experience.

Conflicts of interest

None.

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