

**Examining the Relationship Between Sport-Based Perfectionism and
Perceptions of Parenting Styles Among Male Youth Hockey Players**

Thesis

School of Kinesiology

Lindsey Wachter

Co-Supervisors: Dr. John Gotwals

Dr. Joey Farrell

Internal Examiner: Dr. Erin Pearson

External Examiner: Dr. Rupert Klein

ABSTRACT

In the past, most studies investigating parenting in youth sport have failed to include the athlete's perspective and the possible influence his/her individual personality traits might have on those perceptions. This study addressed this concern by examining whether perceptions of parenting styles differ in relation to youth athletes' perfectionist orientations. Given the multiple roles that parents play in their child's athletic career, that sensitivity to parental expectations and criticism are central characteristics of perfectionism, and that sport is an environment conducive to the development of perfectionist tendencies, the importance of parental criticism and praise may be exaggerated in the case of perfectionist athletes. However, there are different approaches to the conceptualization of perfectionism (i.e., the categorical approach vs. the dimensional approach), with each leading to different predictions as to how perfectionists perceive significant others. Additionally, the only other study to examine the association between perfectionism and parenting style within youth sport (i.e., Sapieja, Dunn, & Holt, 2011) was limited in that it focused on only one of Baumrind's (1991) three primary parenting styles and only sampled youth athletes from the sport of soccer. The present study took these points into account by a) using an analytical technique (i.e., cluster analysis) that allowed for the consideration of both categorical and dimensional approaches to perfectionism, b) assessing perceptions of Baumrind's authoritative, authoritarian, and permissive parenting styles, and c) examining if Sapieja et al.'s (2011) results generalize to athletes from the sport of ice hockey. A total of 93 male youth hockey players (M age = 16.21 years; SD = 1.41) completed multiple measures of sport-based perfectionism and a measure of perception of parenting styles. Cluster analyses conducted on the self-report perfectionism data produced multiple

cluster solutions. The final three-cluster solution was chosen based on fit indices and alignment with the dimensional approach to perfectionism. The three independent clusters were labelled high strivings-high concerns, moderate strivings-moderate concerns, and moderate strivings-low concerns perfectionists. Inter-cluster comparisons revealed that high strivings-high concerns perfectionists perceived authoritarian parenting to a greater degree than moderate strivings-low concerns perfectionists. High strivings-high concerns perfectionists also perceived authoritative parenting to a greater degree than moderate strivings-moderate concerns perfectionists. When considered alongside past research (e.g., Hewitt, Flett, & Singer, 1995; Kawamura, Frost, & Harmatz, 2002; Sapieja et al., 2011) these results suggest a complex relationship between perfectionism and perceptions of parenting style among youth athletes. To add clarity to this relationship, future research should consider: incorporating the perspectives of female youth athletes, determining whether relationships differ when perceptions of a single parent's parenting style is considered, and investigating if results extend to perceptions of coaching style.

ACKNOWLEDGEMENTS

John Gotwals, thank you for taking me on as a graduate student. You may have withheld all information about your personal life from me but I will still consider us 'pretty much best friends'. Without your guidance and encouragement, I would not have pursued this path. You have set a standard of excellence as a researcher, mentor, instructor, and role model.

Joey Farrell, thank you for adopting me mid-way through this process. Your constant efforts to keep me on track were not ignored. Your ideas and feedback were invaluable and this thesis would not exist without you.

My father, Larry Wachter, for introducing me to Brains Benton. He taught me to be curious, to pursue knowledge, and most importantly, that being a smart doesn't exclude you from being a great baseball player. You encouraged those same traits in me, by answering my frequent and far-reaching questions without hesitation, by providing me with opportunities to explore and most importantly, for never doubting that I could do and be whatever I wanted. I would not be who I am without you.

Last but not least, I owe more than thanks to Paul Wojda. While I am readying the life raft, you simply adjust the sails. I don't think that will ever change.

TABLE OF CONTENTS

Abstract	ii
Acknowledgements	iv
List of Tables	vii
List of Figures	viii
Introduction	9
Parenting Styles	10
Perspectives on Perfectionism	12
Categorical approaches to perfectionism	14
<i>Tripartite model</i>	14
<i>2 x 2 model</i>	16
<i>Critique of categorical approaches to perfectionism</i>	19
The dimensional approach to perfectionism	19
<i>Diathesis–stress model</i>	20
Research on Parenting Styles and Perfectionism	21
Purpose	27
Hypotheses	27
Method	28
Participant Recruitment	28
Measures	29
Demographic questionnaire	29
Perfectionism	29
Parenting styles	32
Procedures	34
Results	35
Participants	35
Analyses	35
Missing data	35
Descriptive statistics	36
Reliability	36
Univariate and multivariate normality	37
Bivariate correlations	38
Classification of Athletes by Perfectionistic Orientation	39
Inter-Cluster Differences Across Perfectionism	42
Inter-Cluster Differences Across Perceptions of Parenting Style	46
Discussion	47
Relationships between Perfectionism Dimensions and Parenting Styles	49
Structure of Perfectionism Among Youth Hockey Players	51
Cluster Differences in Parenting Style	57
Future Research	59
Limitations	61
Conclusion	63
References	65
Appendix A: Letter to League Administrators	81
Appendix B: Letter to Coaches	82
Appendix C: Information Letter	83

Appendix D: Demographic Information Sheet	85
Appendix E: Personal Standards in Hockey Questionnaire	86
Appendix F: Parental Authority Questionnaire	88
Appendix G: Parental Consent Form	90
Appendix H: Athlete Consent Form	92

LIST OF TABLES

Table 1.	Perfectionism Dimensions and Parental Authority Questionnaire Descriptive Statistics and Reliability Estimates	36
Table 2.	Perfectionism Dimensions and PAQ Bivariate Correlations (r)	39
Table 3.	Agglomeration Schedule for Hierarchical Cluster Analysis	41
Table 4.	Perfectionism Dimension Means and Standard Deviations for Four-Cluster Solution	41
Table 5.	Perfectionism Dimension Means and Standard Deviations for Three-Cluster Solution	42
Table 6.	Parenting Style Means, Standard Deviations and Univariate Statistics for Between-Cluster Comparisons	47

LIST OF FIGURES

Figure 1.	Tripartite model of perfectionism	15
Figure 2.	2 x 2 model of perfectionism	17

Introduction

Generally, the influence parents have over their child declines as the child matures into adolescence and adulthood. In competitive youth sports, this decline is stunted, with parents often taking on important support roles that continue throughout adolescence (Côté, 1999). Often, parents are the ones to introduce their children to sport, but as their child's participation in sport continues, parents act as role models (e.g., by participating in sport themselves), providers of sport opportunities (e.g., by enrolling them in organized leagues and paying the associated fees), and interpreters of experiences (e.g., by providing feedback about performance) (Brustad & Partridge, 2002; Fredricks & Eccles, 2004). As a result, children's beliefs in their own abilities, expectations of themselves, and sport-related value systems have the potential to be highly influenced by their parents (for better or for worse). Lauer, Gould, Roman, and Pierce (2010) recognized that individual characteristics of youth athletes', such as personality traits, might influence their perception of their interactions with their parents. However, athletes' personality characteristics are rarely incorporated into research investigating parenting in youth sport (Cremades, Donlon, & Poczwardowski, 2013). Personality traits, such as perfectionism, that influence individuals' perceptions of, and sensitivities towards, the behaviours of significant others (Hewitt & Flett, 1991) may be especially relevant in this regard. The present study aims to address this gap in the literature by examining whether youth athletes' perceptions of their interactions with their parents are associated with the athletes' perfectionist orientations. This information could broaden our understanding of perfectionism, the individual factors that influence the perceptions of significant others among youth athletes and, in turn, help in predicting youth who are at risk of perceived undesirable parenting.

Parenting Styles

Parenting styles allow for a general understanding of how a parent is interacting with his or her child across contexts (Darling & Steinberg, 1993). A parenting style is defined as a global set of one's beliefs and attitudes that inform more specific parenting behaviours across a variety of setting and situations (Darling & Steinberg, 1993). Lee, Daniels, and Kissinger (2006) describe Baumrind's (1991) model of parenting styles as one of the most popular conceptualizations. This conceptualization identifies responsiveness and demandingness as dimensions that characterize any parenting style. Responsiveness refers to the degree to which parents' foster individuality and self-regulation, while being supportive and receptive to their children's needs. Demandingness refers to the degree to which parents' exert control over their children and expect conformity, and are willing to confront their children. Baumrind suggested that, when these two continuous dimensions are simultaneously considered, three distinct and primary parenting styles can be identified. Parents who endorse an authoritative parenting style are both responsive and demanding; these parents make reasonable demands but are also very accepting of their children. Parents who subscribe to an authoritarian parenting styles are also demanding but less responsive; they are strict and expect to be obeyed without discussion. Parents who engage in a permissive parenting style are less demanding and more responsive; they are lenient and encourage self-regulation while avoiding conflict (Holt, Tamminen, Black, Mandigo, & Fox, 2009; Miller, Lambert, & Speirs Neumeister, 2012).

Parenting styles have been frequently been examined with regards to children's behaviours (e.g., Aunola & Nurmi, 2005; Bronte-Tinkew, Moore, & Carrano, 2006) and to outcomes in academic contexts (e.g. Aunola, Stattin, & Nurmi, 2000; Gonzalez, Doan

Holbein, & Quilter, 2002; Turner, Chandler, & Heffer, 2009). This research has demonstrated that being exposed to authoritative parenting produces better psychological outcomes for the child than being exposed to either authoritarian or permissive parenting (Steinberg, 2005). For example, authoritative parenting has been linked to positive child outcomes such as greater co-operation, less delinquency, and higher social and cognitive competence while authoritarian parenting has been linked to negative child outcomes such as less self-reliance and less social competence (Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Oates, Lewis, & Lamb, 2005). Parents play a pivotal role in a youth athlete's experience in sport and different parenting styles have the potential to determine whether these experiences are enjoyable or unpleasant (Fredricks & Eccles, 2004).

To the best of my knowledge only two studies have examined Baumrind's (1991) parenting styles in sport: Juntumaa, Keskivaara, and Punamaki (2005), and Sapieja, Dunn, and Holt (2011). Juntumaa et al. (2005) compared parenting style, goal achievement, and satisfaction among Finnish youth male ice hockey players. Parents who reported themselves as being authoritative had children who reported high levels of satisfaction with playing hockey, while parents who reported themselves as authoritarian had children who were more likely to approve of norm-violating behaviour (such as breaking rules).

Juntumaa et al. (2005) focused on parents' perceptions of their own parenting styles. While this focus provides some insight on the influence of parenting style on youth outcomes, youth do not respond to parents' perceptions of parenting style; instead, they respond to their own perceptions of their parents' parenting style. As a result, focusing on the athlete's perspective might be more important than the parent's

perspective when considering the impact of parenting styles on athlete outcomes (O'Rourke, Smith, Smoll, & Cumming, 2011). For example, several studies have found stronger links between sport/developmental outcomes and youth athletes' perceptions of their parents' behaviour than with parents' actual behaviour (e.g., Hoyle & Leff, 1997; Wuerth, Lee, & Alfermann, 2004).

Sapieja et al. (2011) is a sport-based study that took into account youth athletes' perceptions of their parents' parenting style. Specifically, this study examined how youth athletes' perceptions of parenting style were associated with their perfectionist orientation. Sapieja et al.'s study directly relates to the purpose of the present study and, as a result, is reviewed in depth later in the introduction. Beforehand, though, it is necessary to define perfectionism and describe different models that have been used to conceptualize the personality trait.

Perspectives on Perfectionism

Theorists describe perfectionism as a multidimensional personality trait that addresses tendencies to set exceedingly high performance standards, conduct overly critical self-evaluations, and perceive significant others as sources of social pressure (Flett & Hewitt, 2002; Frost, Marten, Lahart, & Rosenblate, 1990). There are four primary reasons perfectionism is worth considering in research with regards to parenting in youth sport contexts. First, perceptions of parental expectations and parental pressure are a common characteristic of a perfectionist (Frost et al., 1990). Second, theorists suggest a relationship between the type and quality of interactions that occur between youth and their parents, and youths' perfectionist orientations (Hamachek, 1978). Third, Flett and Hewitt (2005) suggest that sport may encourage the adoption of perfectionistic tendencies, as it often requires error-free performance in

order for athletes to be successful. In support of this suggestion, prominent applied sport psychologists (e.g., Hardy, Jones, & Gould, 1996; Zinsser, Bunker, & Williams, 1998) have recognized that high levels of perfectionism are common among competitive athletes. Fourth, Gaudreau and Vernier-Filion (2012) recognized that research in perfectionism should pay more attention to the role of parents in relation to orientations of perfectionism among competitive athletes. These points make perfectionism an ideal trait to investigate the potential influence of personality traits on perceptions of parenting in youth athlete research.

Based on a review of the general psychology perfectionism literature, Stoeber and Otto (2006) identified two overarching dimensions of perfectionism: perfectionistic strivings and perfectionistic concerns. Perfectionistic strivings encompass the facets of perfectionism that involve self-oriented standards for performance, striving for flawlessness, and exceedingly high personal standards of performance (Stoeber, Otto, Pescheck, Becker, & Stoll, 2007). Perfectionistic concerns encompass facets of perfectionism that reflect fears of negative evaluation by others, tendencies to react negatively towards mistakes, and discrepancies between expectations and actual performance (Stoeber & Childs, 2012).

Different approaches exist with regards to how these dimensions can be used within overarching models to best represent perfectionism (Gotwals, Stoeber, Dunn, & Stoll, 2012). The two most prominent approaches are the dimensional approach and the categorical approach. It is important to distinguish between these two approaches (and between models that represent either approach) because they differ in how perfectionism is conceptualized, in the degree to which perfectionism is associated with adaptive/maladaptive cognition, affect, and behaviour, and in how perfectionism should

be predicted to relate to perceptions of parenting style. Put into the terms of this study, different approaches lend themselves to different predictions in regards to how perfectionism and perceptions of parenting style should be associated among youth athletes. Given that this study represents an exploration of the relationship between perfectionism and perceptions of parenting style, it is important to recognize these differences and account for them in the development of hypotheses, methodology, and data analysis.

Categorical approaches to perfectionism. The categorical approach to perfectionism argues that distinct types of perfectionism exist and should be distinguished from one another (Broman-Fulks, Hill & Green, 2008). Supporters of this perspective argue that analysis of individuals' self-reported perfectionism scores can reveal natural groupings of different types of perfectionists, which can be further distinguished by differences in adaptive and maladaptive characteristics (Parker, 1997; Rice & Mirzadeh, 2000). Two models are in line with this approach: the tripartite model and the 2 x 2 model.

Tripartite model. Within the tripartite model (Stoeber & Otto, 2006), perfectionistic strivings and perfectionistic concerns are used to identify three distinct types of perfectionists: healthy perfectionists, unhealthy perfectionists and non-perfectionists (see Figure 1). Non-perfectionists are individuals characterized by low levels of perfectionistic strivings (irrespective of their levels of perfectionistic concerns; Rice & Ashby, 2007; Stoeber & Otto, 2006). Healthy perfectionists are individuals with high levels of perfectionistic strivings coupled with low levels of perfectionistic concerns. Unhealthy perfectionists are individuals with high levels of perfectionistic strivings coupled with high levels of perfectionistic concerns.

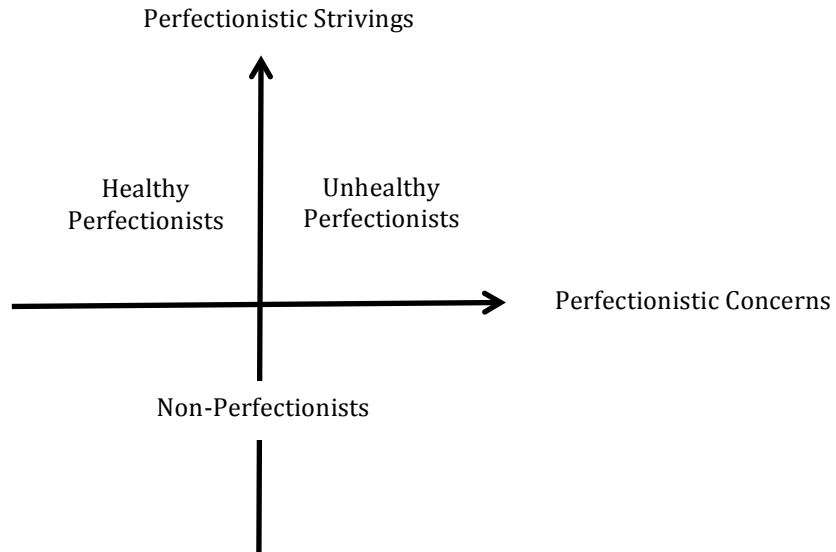


Figure 1. Tripartite model of perfectionism. Two dimensions of perfectionism (perfectionistic strivings, perfectionistic concerns) are used to distinguish between healthy perfectionists, unhealthy perfectionists, and non-perfectionists. Adapted from “Positive Conceptions of Perfectionism: Approaches, Evidence, Challenges,” by J. Stoeber and K. Otto, 2006, *Personality and Social Psychology Review*, 10, p. 296. Copyright 2006 by Lawrence Erlbaum Associates, Inc.

The tripartite model’s distinction between healthy perfectionism and unhealthy perfectionism corresponds well with anecdotal accounts of the personality trait (e.g., Hamachek, 1978; Lundh, 2004; Stoeber & Otto, 2006). Subsequently, these accounts are useful in illuminating how youth characterized by the two orientations may differentially perceive the parenting styles of their parents.

Healthy perfectionists’ hold themselves to lofty standards but their sense of self-worth is not based upon the achievement of their personal goals (Hamachek, 1978). They are able to separate their identity from their performance and maintain a positive sense of self-worth if they fall short (Lundh, 2004). Although healthy perfectionists desire approval from significant others, they view such approval as an added bonus to the enjoyment experienced as a result of their performance efforts (Hamachek, 1978).

Expanding on these anecdotal descriptions, it would be expected that healthy perfectionists might feel that their parents have high standards for their children, but that those standards are in line with their personal standards. They would not fear being perceived as failures by their parents should they fall short of their expectations. As a result, healthy perfectionists should perceive their parents as being authoritative.

Unhealthy perfectionists also set high standards for their own performance and work relentlessly towards meeting those standards (Hamachek, 1978). In contrast to healthy perfectionists, unhealthy perfectionists take no pleasure in the pursuit of their lofty aspirations (Missildine, 1963). They are thought to adopt high standards as a means of gaining approval from others (Hamachek, 1978). Unhealthy perfectionists' sense of self-worth is critically dependent on their achievement of perfect performance. As a result, it is difficult for them to separate their own identity from their achievements and failures (Hamachek, 1978). As a result of their fragile self-worth, unhealthy perfectionists are especially vulnerable to the opinions of significant others, particularly their parents. They are more likely to perceive their parents as having high expectations for them and to interpret others' opinions as criticism (Speirs Neumeister, 2004). These characteristics suggest that unhealthy perfectionists should perceive their parents as being authoritarian.

2 x 2 model. Recently, Gaudreau and Thompson (2010) presented the 2 x 2 model of perfectionism, proposing a novel quadripartite conceptualization. The 2 x 2 model builds upon the tripartite model by relabeling the three types of perfectionists and introducing a fourth type within the same overarching dimensions (see Figure 2). The model distinguishes between pure personal standards perfectionists, mixed perfectionists, pure evaluative concerns perfectionists, and non-perfectionists. Pure

personal standards perfectionists reflect the profile of the healthy perfectionists and have high levels of perfectionistic strivings without the burden of perfectionistic concerns. Mixed perfectionists reflect the profile of unhealthy perfectionists and pair high levels of perfectionistic strivings with high levels of perfectionistic concerns. Pure evaluative concerns perfectionists have no parallel within the tripartite model, described as having high levels of perfectionistic concerns and low levels of perfectionistic strivings. The non-perfectionists within the 2 x 2 model present a more specific profile when compared to the tripartite model, as they are defined as combining low levels of both perfectionistic strivings and perfectionistic concerns.

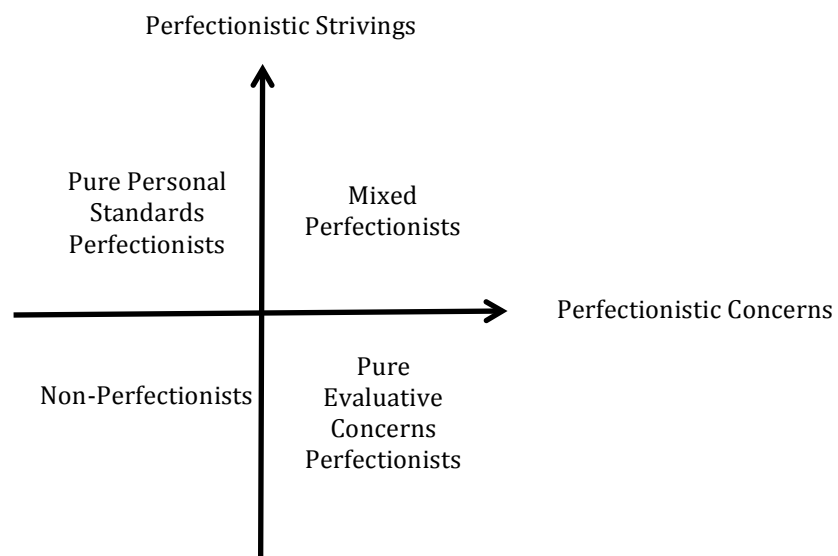


Figure 2. 2 x 2 model of perfectionism. Two dimensions of perfectionism (perfectionistic strivings, perfectionistic concerns) are used to differentiate between pure personal standards perfectionists, mixed perfectionists, pure evaluative concerns perfectionists, and non-perfectionists. Adapted from “Testing a 2 x 2 model of dispositional perfectionism,” by P. Gaudreau and A. Thompson, 2010, *Personality and Individual Differences*, 48, p. 533. Copyright 2009 by Elsevier Ltd.

Each of the 2 x 2 model’s perfectionist groups corresponds with unique hypotheses regarding positive and negative outcomes. These hypotheses can be used to speculate how youth characterized by the four orientations may perceive parenting

styles. Pure personal standards perfectionists represent individuals who hold perfectionistic standards stemming from the self without feeling external pressure to meet these standards. Gaudreau and Thompson (2010) hypothesized that pure personal standards perfectionism would be associated with better psychological adjustment than mixed perfectionism and pure evaluative concerns perfectionism. In line with these hypotheses, and as a result of the disinclination to perceive pressure from others to achieve, pure personal standards perfectionists should be predisposed to see their parents as adopting an authoritative parenting style.

Pure evaluative concerns perfectionists represent individuals who strive toward perfection because of perceived pressure from significant others and to reach socially driven standards of excellence rather than from a desire to fulfill one's own personal values, interests, or priorities. It can be described as "an externally regulated perfectionism" (Gaudreau & Thompson, 2010, p.533). These individuals feel pressured to pursue stringent goals and base their feelings of self-worth and connectedness with the social environment upon the achievement of these goals (Gaudreau & Verner-Filion, 2012). As the tripartite model has no equivalent to pure evaluative concerns perfectionism, the 2x2 model opens new perspectives hypothesizing that pure evaluative concerns perfectionism should relate to the most negative outcomes when compared to other subtypes of perfectionism (Gaudreau & Thompson, 2010). In line with this hypothesis, pure evaluative concerns perfectionists should experience their parents as extremely demanding and leaving little room for error, trademarks of authoritarian parents.

Mixed perfectionists represent individuals who both set standards for themselves and perceive them as being set by others. Mixed perfectionists perceive pressure to

achieve from their social environment. Yet, on the other hand, they also experience a personal desire to achieve the perfectionistic standards for themselves. While the tripartite model suggests that this is the most negative perfectionist subtype, Gaudreau and Verner-Filion (2012) argue that the potentially damaging effects of perceived external pressure are diminished by the fact that mixed perfectionism also involves the pursuit of perfectionism standards for reasons that are partially consistent with personal values, interests, and priorities. Regardless of their own expectations for performance, one would expect mixed perfectionists to perceive their parents as a source of pressure to meet expectations, characteristic of authoritarian parenting.

Critique of categorical approaches to perfectionism. Broman-Fulks et al. (2008) conducted a study that examined the validity of the categorical approach to perfectionism. They argued that there is limited evidence for the categorical approach. They identify that the majority of research conducted within this approach relies on cluster analysis (i.e., an analysis that attempts to group participants based on criteria chosen by the researcher) to identify different types of perfectionists and note that this type of analysis should be viewed cautiously as cluster analysis produces clusters whether they are meaningful or not. They further contend that any categorizing of perfectionists based upon popular measures of perfectionism rely upon arbitrary cut off points to differentiate between groups which could result in the loss of important information. In light of these concerns, Broman-Fulks et al. supported a dimensional approach to perfectionism.

The dimensional approach to perfectionism. The dimensional approach to perfectionism argues that perfectionism is best represented as a continuous variable on which all individuals can be located (Broman-Fulks et al., 2008). In other words,

individuals are discriminated based on the degree of perfectionism rather than type (Hewitt & Flett, 2002). This approach allows for the evaluation of the complete range of perfectionism. The diathesis-stress model (Flett, Hewitt, Blankstein, & Mosher, 1995) is the most popular representation of the dimensional approach to perfectionism.

Diathesis–stress model. The diathesis-stress model (Flett et al., 1995) describes perfectionists as having the tendency to strive for flawlessness, and to set and hold themselves to impossibly high self-standards. Flett and Hewitt (2006) argue that these tendencies leave the individual vulnerable to negative experiences (i.e., depression). As a result of these rigid evaluative criteria, perfectionists perceive falling even slightly short of a goal as a devastating failure (Hewitt, Flett, & Ediger, 1995). Perfectionists are thought to engage in all-or-none type thinking where anything less than perfection is interpreted as a complete failure. This is also accompanied by a tendency to focus on personal flaws and past failures (Burns, 1980; Hamachek, 1978).

Flett and Hewitt (2002) view perfectionism as a continuous variable, suggesting that individuals differ along perfectionist dimensions. Individuals demonstrating higher degrees of perfectionism not only hold themselves to high standards but also believe that others have set unrealistic standards and perfectionistic motives for their own performance and others will be satisfied only when these standards are attained (Flett et al., 1995). Among perfectionistic youth athletes, this belief is most often held for authority figures in their lives, such as teachers or coaches but primarily, parents (Appleton, Hall, & Hill, 2011). Perfectionist children often view their parents as having extraordinarily high goals for their children and being excessively critical of mistakes or shortcomings. In terms of Baumrind's (1991) parenting styles, individuals with high

levels of perfectionism should see their parents as being authoritarian (Flett & Hewitt, 2002).

The debate over which approach more accurately represents perfectionism is important to perfectionism theory but it also has implications in understanding how perfectionists relate to significant others, particularly their parents. Each approach and its corresponding models offer their own prediction for how perfectionism should relate to perceptions of parenting style. Researching this topic could be beneficial in determining which model offers the most valid predictions. Currently, there is a limited body of research upon which such determinations can be made—especially in regards to: a) Baumrind’s (1991) conceptualization of parenting styles; and b) the domain of sport.

Research on Parenting Styles and Perfectionism

Very few studies have examined the possible interaction between perfectionist orientations and youth perceptions of Baumrind’s (1991) parenting styles per se. However, insight into the nature of this interaction can be gained from the larger body of research that has investigated how perfectionism is related to characteristics generally associated with different parenting styles. Collectively, these studies’ findings suggest that perfectionistic concerns are associated with increased perceptions of characteristics associated with authoritarian parenting. For example, in a sample of undergraduate students, Rice, Ashby, and Preusser (1996) found that the greater the scores on subscales related to perfectionistic concerns, the more harsh and demanding—authoritarian—they perceived their parents to have been. Rice, Lopez, and Vergera (2005) found in a sample of undergraduate students that parental expectations, a central characteristic to authoritative and authoritarian parenting, may mainly lead to the development of perfectionistic strivings, while parental criticism, a characteristic of

only authoritarian parenting, may mainly lead to perfectionistic concerns. Focusing on the perspective of children, Speirs Neumeister, Kay Williams, and Cross (2009) found that gifted high school students high in socially prescribed perfectionism (a facet of perfectionistic concerns representing tendencies to perceive significant others as sources of social pressure; Hewitt & Flett, 1991) believed that their parents expected them to be successful in academics and would be upset if they failed (a characteristic of authoritarian parenting). In one of the few studies conducted within sport, McArdle and Duda (2008) suggested that adolescent athletes who perceived their parents to be harsh, critical, and punitive were more likely to develop a tendency to place a greater importance on mistakes and to equate those mistakes with personal failures—characteristics that reflect high levels of perfectionistic concerns.

Only two studies—Kawamura, Frost, and Harmatz (2002) and Sapieja et al. (2011)—have examined how perfectionism is associated specifically with Baumrind's (1991) conceptualization of parenting style. Kawamura et al. (2002) sampled a group of 337 Asian American and Caucasian-American college students. The study compared the participants' scores on the Personal Standards, Concern Over Mistakes and Doubts About Actions subscales from Frost et al.'s (1990) *Multidimensional Perfectionism Scale* (F-MPS) to their scores on the authoritative parenting subscale of the *Parental Authority Questionnaire* (PAQ; Buri, 1991). Their results demonstrated a relationship between perceptions of authoritarian parenting to subscales that reflect perfectionistic concerns (e.g., Concern over mistakes and Doubts about actions), but not to a subscale reflecting perfectionistic strivings (e.g., Personal standards).

As the sample was comprised of college students, there is some concern that a retrospective bias may exist in individual's perceptions of the interactions with their

parents that occurred in their youth. These biases may result in an incomplete account of parenting styles that influence youth's current experiences (Hurtel & Lacassagne, 2011). This study also focused on students, not athletes. Perfectionism has been demonstrated to be domain-specific (Gotwals, Dunn, Causgrove Dunn, & Gamache, 2010) so it is unclear if and how the results will transfer to the sports domain. As a result, this study provides limited insight into the interaction between perfectionism and parenting style among youth athletes.

Sapieja et al. (2011) tried to gain a better understanding of how perfectionism relates to Baumrind's (1991) proposed parenting styles in youth athletes by studying a sample of 194 youth male soccer players. The study used cluster analysis to distinguish groups of perfectionists. The goal of this analysis is to produce a solution that maximizes the similarity of participants within a group (in regards to the clustering criteria) while maximizing the differences between groups (Tan, Steinbach, & Kumar, 2005). An advantage of cluster analysis is that it allows for the consideration of multiple variables simultaneously when distinguishing groups (Tan et al., 2005). The most common use of cluster analysis is classification (Green, Carmone, & Smith, 1989) but it is also useful in determining if groups defined through other data analysis procedures are present within a data set, such as the perfectionist orientations suggested in the tripartite and 2 x 2 models (Aldenderfer & Blashfield, 1984).

In Sapieja et al. (2011), cluster analysis was conducted using the athletes' responses to the *Sport Multidimensional Perfectionism Scale-2* (Sport-MPS-2; Gotwals & Dunn, 2009) in order to group the athletes into three clusters. The perfectionist subscale scores of each group were most accurately described by the perfectionist types of the tripartite model (Stoeber & Otto, 2006): healthy perfectionists, unhealthy

perfectionists, and non-perfectionists. Each clusters' responses to the *Parenting Style Inventory-2* (PSI-2; Darling & Toyokawa, 1997), a measure of youth's perceptions of their parents' parenting styles, were compared. Their findings indicated that athletes in the healthy perfectionism cluster had stronger perceptions of parental authoritativeness than athletes in the unhealthy perfectionism cluster. Healthy perfectionists and non-perfectionists did not differ in their perceptions of authoritativeness.

Sapieja et al. (2011) were the first to explore the implications of differing perfectionist orientations upon a youth athlete's perception of their parents' parenting style (as conceptualized by Baumrind, 1991). However, the study has four limitations that are noteworthy in relation to the present study. The first concerns Sapieja et al.'s (2011) sole reliance on the Sport-MPS-2 to assess perfectionism among their sample of athletes. Although the Sport-MPS-2 contains some subscales that represent core facets of perfectionistic strivings and perfectionistic concerns (e.g., the Personal Standards and Concern Over Mistakes subscales; Stoeber, 2011), it is unclear if any single instrument can be used to fully represent the two dimensions. As a result, Stoeber (2011) suggests that perfectionistic strivings and perfectionistic concerns should be assessed through the use of multiple subscales from multiple different instruments (e.g., Gaudreau & Antl, 2008; Stoeber et al., 2009; Zarghmi, Ghamary, Shabani, & Varzaneh, 2010). Doing so increases the faith that all key features of perfectionistic strivings and perfectionistic concerns are being assessed.

The second limitation concerns Sapieja et al.'s (2011) use of the PSI-2 to measure parenting styles. The PSI-2 is a modified (and much shorter) version of the original Parenting Style Inventory developed by Steinberg, Lamborn, Dornbusch, and Darling (1992). The instrument contains three 5-item subscales that are designed to measure

emotional responsiveness, demandingness, and psychological autonomy-granting tendencies. However, in Sapieja et al., two of these three subscales (specifically, the subscales assessing demandingness and psychological autonomy-granting tendencies) did not demonstrate adequate levels of internal consistency. As a result, the researchers decided to treat the PSI-2 as a unidimensional measure of solely perceived parental authoritativeness. While this decision was in line with actions taken in past research (see Darling, Cumsille, Caldwell, & Dowdy, 2006), it prevented Sapieja et al. from assessing two of the three parenting styles in Baumrind's (1991) conceptualization: specifically, the authoritarian parenting style and the permissive parenting style. As such, Sapieja et al. recognized that it is still unclear whether athletes with different perfectionistic orientations also differ in the degree to which they perceive their parents to endorse authoritarian and permissive parenting styles.

The third limitation concerns Sapieja et al.'s (2011) use of cluster analysis to differentiate groups of perfectionists. The concern is not over how Sapieja et al. used cluster analysis because the researchers followed statisticians' recommendations when conducting their analysis. Instead, the concern lies with the nature of cluster analysis itself. Whenever cluster analysis is conducted upon a set of data (e.g., athletes' mean Sport-MPS-2 subscale scores), it will produce multiple sample-specific solutions as to how that data can be best grouped. The responsibility lies with the researcher to then choose the most appropriate solution. Although several indices can be used to aid in this decision, the most appropriate solution is not always obvious and may depend on the theoretical foundation of the investigation (Hair & Black, 1998). To address this limitation of the technique, statisticians (Hair & Black, 1998) emphasize the importance of validating any chosen cluster solution by examining whether it can be re-produced in

an independent sample. This step carries extra weight in regards to Sapieja et al.'s study given that cluster analysis was used to group athletes according to their perfectionistic orientation, yet there are multiple different models that can be used to identify the most appropriate conceptualization of youth athletes' perfectionist orientations. As a result, it is important to examine if the clusters of healthy perfectionists, unhealthy perfectionists, and non-perfectionists identified in Sapieja et al.'s solution can be replicated in an independent sample of youth athletes to not only validate the solution, but to add support to the tripartite model of perfectionism.

The fourth limitation concerns Sapieja et al.'s (2011) sample population being comprised solely of male youth soccer players. The authors recognized that it would be unwise to generalize their results to athletes participating in different sports until the results could be reproduced in different samples of athletes drawn from those sports. Samples drawn from competitive youth hockey players could be valuable in this regard. As indicated earlier, high levels of sport have been identified as being conducive to the endorsement of perfectionistic tendencies. Additionally, competitive youth hockey mirrors several characteristics that Gould, Lauer, Rolo, Jannes, and Pennisi (2006) described as ideal for studying parental involvement in youth sport. That is, the sport is expensive, exists primarily outside of the school sport structure, and allows for youth to compete at elite levels at a relatively young age. Taken together, these points suggest that relationships between perfectionism and perceptions of parenting style may be especially salient within competitive youth hockey.

Purpose

The purpose of this study is to replicate Sapieja et al.'s (2011) study by examining, in an alternative sport-based context, whether youth athletes' perceptions of their parents' parenting style differs according to the athletes' perfectionistic tendencies. The study expands upon Sapieja et al.'s study by:

1. Using multiple measures to assess athletes' levels of perfectionistic strivings and perfectionistic concerns;
2. Including measures of authoritarian and permissive parenting;
3. Attempting to replicate Sapieja et al.'s (2011) cluster solution within an independent sample; and
4. Sampling athletes from competitive youth hockey.

Hypotheses

Given the findings of Sapieja et al. (2011), Kawamura et al. (2002), and theoretical perspectives on the development of perfectionism (see Flett, Hewitt, Oliver, & Macdonald, 2002), it is expected that youth hockey players who report high levels of both perfectionistic strivings and perfectionistic concerns will report stronger perceptions of authoritarian parenting and lower perceptions of authoritative parenting than those with lower levels of perfectionistic strivings and/or perfectionistic concerns. Due to a dearth of previous evidence, no hypotheses were made with regards to permissive parenting. Beyond these hypotheses, more specific expectations about levels of perfectionist dimensions and perceptions of parenting styles would depend upon the approach towards perfectionism under consideration. That is, different models lead to different predictions about the association between perfectionism and parenting style.

As a result, analyses will be conducted in a manner that allows for exploration of the degree to which these contrasting models can be used to best explain the data.

Method

Participant Recruitment

Male athletes who took part in youth hockey at a competitive level were recruited for this study. To be included in the study, athletes had to be male, between the ages of 13 and 18, and a member of a 'AA' or 'AAA' team. The study was limited to male hockey players as previous research suggested that levels of perfectionism might differ based upon gender (Dunn, Gotwals, & Causgrove Dunn, 2005). It has also been demonstrated that parental attitudes towards their child's sport participation differ based on the gender of the child participating. These differing attitudes inform parenting styles, so parents might actually engage in different parenting styles towards their sons and daughters (Horn & Horn, 2007; Jacobs, Vernes, & Eccles, 2005). The age range encompasses two age divisions in minor hockey: Bantam (ages 13-15) and Midget (16-18). It was thought that athletes any younger than 13 would have difficulty responding to questionnaires, and those athletes older than 18 would no longer be considered youth athletes. 'AA' and 'AAA' were used to indicate that players were participating in competitive divisions of youth hockey. In order to play on a 'AA' or 'AAA' team, one must participate in a tryout and be selected for the final team. These teams also require a significant time commitment and financial investment. The only athletes who met these inclusion criteria, but who were excluded from the study, were those who did not provide parental consent.

This study used purposive sampling to recruit and obtain participants. To initiate this process, the researcher contacted directive boards of four bantam and midget

leagues to explain the study and obtain permission to promote the study to coaches of teams within the leagues (See Appendix A). The two boards that expressed interest were then asked to distribute study information to coaches from teams that met the division and level of competition criteria within the league. Coaches interested in allowing their teams to be recruited were asked to contact the researcher for further information (Appendix B). The researcher also contacted administrators of hockey camps that were geared toward the Bantam and Midget hockey players in an effort to recruit participants in the off-season.

Once coaches had given the research team permission to recruit their athletes for the study, the coaches were either given information letters to distribute to each member of their team or allowed the researcher to distribute information letters (see Appendix C). These letters specified the purpose and procedures of the study to both potential participants and their parents. Those athletes interested in participating were asked to attend a data collection session following the next practice. As only those athletes who were willing to participate attended that data collection session, it is difficult to determine the degree to which athletes from each team or camp participated in the study. In general, though, every athlete that attended the data collection session agreed to take part in the study.

Measures

Participants completed three questionnaires: a demographic information questionnaire (see Appendix D); a Personal Standards in Hockey questionnaire to assess perfectionism (Appendix E); and a Parental Authority questionnaire to assess perceptions of parenting styles (Appendix F). While the demographic questionnaire always appeared first, the order of the perfectionism and the parenting style

questionnaires was counterbalanced.

Demographic questionnaire. The demographic questionnaire asked participants to provide basic demographic information regarding their age, the division/level of their team, their years of experience in competitive hockey, and with whom they reside during the hockey season.

Perfectionism. Subscales from the two of the most popular measures of sport-based perfectionism were used to assess perfectionistic strivings and perfectionistic concerns in sports— the Sport-MPS-2 (Gotwals & Dunn, 2009) and *Multidimensional Inventory of Perfectionism in Sport* (MIPS; Stoeber et al., 2007). This approach is proposed to foster representative assessments of the two perfectionism dimensions (see Stoeber, 2011) and has been adopted by several sport-based studies (e.g., Hill, 2013; Jowett, Hill, Hall, & Curran, 2013), including a study conducted within competitive youth hockey (Stoeber, Stoll, Salmi, & Tiikkaja, 2009). Perfectionistic strivings was assessed with the Personal Standards subscale from the Sport-MPS-2 and the Perfectionist Strivings subscale from the short-form version of the MIPS; perfectionistic concerns was assessed with the Concern Over Mistakes subscale from the Sport-MPS-2 and the Negative Reactions to Imperfection subscale from the MIPS.

The Personal Standards (Sport-MPS-2) and Perfectionist Strivings (MIPS) subscales assess the tendency to set high standards for one's own performance and the importance placed on meeting those standards. The Personal Standards subscale contains seven items (e.g., "If I do not set the highest standards for myself in my sport, I am likely to end up a second-rate player"). The Perfectionist Strivings subscale contains five items (e.g., "During training, I strive to be as perfect as possible"). The Concern Over Mistakes (Sport-MPS-2) subscale contains eight items that assess the tendency to

react negatively to mistakes, to perceive mistakes as failures and to believe that mistakes will result in a loss of respect from others (e.g., “If I do not do well all the time in competition, I feel that people will not respect me as an athlete”). The Negative Reactions to Imperfection (MIPS) scale contains five items that assess the tendency to respond to perceived mistakes and failures negatively (e.g., “After training, I feel depressed if I have not been perfect”).

All four subscales’ reliability and validity are supported by a considerable amount of evidence. Within the specific context of male youth ice hockey, the subscales have demonstrated acceptable levels of internal consistency ($\alpha > .70$), appropriate factor structure, and theoretically meaningful relationships with other constructs (Dunn, Gotwals, Causgrove Dunn, & Syrotuik, 2006; Stoeber et al., 2007; Stoeber, Stoll, Pescheck, & Otto, 2008; Vallance, Dunn, & Causgrove Dunn, 2006). Stoeber (2011) identified each subscale as representing a core facet of perfectionistic strivings or perfectionistic concerns.

All items were presented on one page entitled “Your Personal Standards in Hockey”. To create this questionnaire, the researcher had to make two noteworthy decisions. The first concerns which version of MIPS to use. There are two versions of the instrument: one focused on perfectionist tendencies in training and the other focused on competition. As items in the Sport-MPS-2 largely relate to tendencies in competitive contexts within sport, the researcher decided to use the training version of the MIPS in this study’s questionnaire in an attempt to capture the athlete’s perfectionist tendencies across participation contexts. The second decision concerned the type response format to use. Typically, the Sport-MPS-2 and the MIPS use different Likert scales to measure participants’ responses to items. The MIPS uses a 6-point scale (1 = *never*, 6 = *always*),

and the Sport-MPS-2 uses a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*). In a study conducted by Stoeber et al. (2009) where the same subscales were used to measure perfectionistic strivings and perfectionistic concerns, a 5-point Likert scale was adopted for all items. In light of this and in order to maintain consistency in response style, the participants were asked to indicate to what degree each statement characterized their personal standards in hockey by responding on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*). Higher subscale mean item scores reflect higher levels of each perfectionist dimension.

Parenting styles. To capture youth's perceptions of parenting styles, the Parental Authority Questionnaire was used (PAQ; Buri, 1991). The PAQ is a 30-item instrument that assesses Baumrind's (1991) parenting styles. More specifically, the questionnaire is comprised of three subscales that respectively reflect the authoritarian, authoritative, or permissive parenting styles.

The Authoritarian Parenting scale contains 10 items that measure the tendency to experience one's parents' as being both demanding and unwilling to relax their expectations for their children (e.g., "Even if their children don't agree with them, my parents feel that it is for our own good if we are forced to agree with what they think was right"). The Authoritative Parenting subscale contains 10 items that measure the tendency to perceive one's parents as having expectations for behaviour but being able to change those expectations based on input from the child (e.g., "I know what my parents expect of me in my family, but I also feel free to discuss those expectations with my parents when I feel that they are unreasonable"). The Permissive Parenting subscale contains 10 items that assess the tendency to perceive one's own parents as exercising low levels of control over their children while being supportive and responsive (e.g., "My

parents seldom give me expectations and guidelines for my behaviour”). In the current study, participants were asked to use a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*) to indicate the degree to which each statement represented how they felt about their parents. Higher subscale mean item scores reflect higher levels of each respective parenting style. When used in samples of adolescents, the subscales have demonstrated acceptable levels of internal consistency ($\alpha > .70$) and been found to relate in theoretically meaningful manners to other constructs (Gonzalez et al., 2002; Ishak, Low, & Lau, 2012; Kawamura et al., 2002; Rudasill, Adelson, Callahan, Houlihan, & Keizer, 2013). Several studies have demonstrated appropriate factor structure for the subscales in samples of undergraduate students (Chan & Chan, 2007; Rudasill et al., 2013).

Items were presented for participants on two pages entitled “Parental Authority Questionnaire”. The PAQ used in the present study differed from the original version of the PAQ in three ways. First, items were reworded to reflect the present tense. This change was made so that participants considered their current trends of interactions with their parents. Second, the questionnaire indicated that if the athlete’s parents were separated, to consider the questions with respect to the parent they spend the most time with. Third, the original instrument called for all items to be presented twice; once with respect to the mother, the other with respect to the father. However, in this study, items were not presented separately for mothers and fathers and questions were rephrased to reference the parents as a singular unit. This change was made to decrease the length of the overall questionnaire in an effort to reduce potential respondent fatigue or carelessness (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Darling et al. (2006) argued that while considering parents’ together might lose the specificity of looking at each parent separately, it has the advantage of capturing the general levels of parenting

styles within the family and does not exclude adolescents with only one parent from the sample. Furnham and Cheng (2000) produced supportive evidence for this change by demonstrating that the PAQ subscales show greater internal consistency when responses to maternal and paternal parenting styles are collapsed as opposed to analyzed separately. Additionally, Sapieja et al. (2011) found a strong positive correlation between maternal and paternal authoritativeness, suggesting that the youth athletes in their sample generally perceived very similar patterns of parental authoritativeness from both parents.

Procedures

Ethical approval for the study was received from Lakehead University. Data were collected both during the hockey season (September-March) and during the off-season (April-August). During the season, questionnaires were completed by groups of players after scheduled team practices in a meeting room (when available) or in a locker room. Outside of season, players either completed questionnaires individually in a classroom at Lakehead University or in groups after hockey camp sessions in locker rooms. Anonymity of athletes' participation, and the confidentiality of their responses, was fostered by not allowing coaches to attend data collection sessions.¹

Parental consent forms were always distributed prior to data collection and returned by the athletes at the data collection session (See Appendix G). Athletes signed

¹ On one occasion, the researcher was not present at the data collection session due to a scheduling conflict. In this instance, the coach distributed information about the study; collected parental and athlete consent forms; and administered the questionnaires. The coach was asked to look over the questionnaire and clarify any questions about item meanings with the researcher prior to distributing it to his team. The coach was given a script for verbal instruction and was asked to put completed questionnaires in an envelope to help maintain anonymity of participants.

consent forms at the data collection session, prior to completing the questionnaire (Appendix H). Participants were given verbal instructions by the researcher on how to complete questionnaires in addition to written instructions within the questionnaire packet. Participants were encouraged to ask the researcher any questions that came up for them in regards to item clarity and meaning.

Results

Participants

This study's recruitment strategy and purposive sampling protocol produced a sample of 93 male youth hockey players ($M_{age} = 16.21$ years; $SD = 1.41$). In total, seven coaches contacted the researcher; five of those coaches agreed to allow their team to take part in the study. The researcher contacted head coaches at six hockey camps; three of these coaches agreed to allow the research to recruit athletes attending their camps. The participants represented eight different teams from Northwestern Ontario and reported an average of 10.84 years ($SD = 2.18$) of experience participating in organized youth hockey. The majority of participants competed on either AA ($n = 54$) or AAA ($n = 34$) level teams (Other/Missing = 5) in either the midget ($n = 72$) or bantam ($n = 19$) age divisions (Other/Missing = 2). Only two of the participants of this study reported living with a billet family.

Analyses

Missing data. Eight participants were missing one or two item responses on the demographic questionnaire. Twenty-seven participants had missing responses on the perfectionism and parenting style questionnaires. Twenty participants were missing only one item response and seven were missing two to four item responses across these instruments. Of those seven, two participants were missing two items from the same

subscale within one of the two instruments. Collectively, this represents a small amount of missing data. As a result, mean substitution was used to replace all missing item values.

Descriptive statistics. In line with recent sport-based perfectionism research (Hill, 2013; Jowett et al., 2013) and as supported by structural equation modeling (Stoeber et al., 2009), perfectionistic strivings scores were calculated by averaging participants' mean item scores on the Sport-MPS-2 Personal Standards subscale and the MIPS Perfectionist Strivings subscale. Similarly, perfectionistic concerns scores were calculated by averaging participants' mean item scores on the Sport-MPS-2 Concern Over Mistakes subscale and the MIPS Negative Reactions to Imperfection subscale. Parenting styles subscale scores were calculate by averaging PAQ subscale item responses. Table 1 presents the mean score and standard deviation for each variable.

Table 1

Perfectionism Dimensions and PAQ Descriptive Statistics and Reliability Estimates

	<i>M</i>	<i>SD</i>	<i>α</i>	Skewness	Kurtosis
Perfectionistic Strivings	3.61	0.61	0.87	0.47	-0.44
Perfectionistic Concerns	3.01	0.70	0.89	0.24	-0.37
Authoritative Parenting	3.55	0.49	.740	-0.34	0.83
Authoritarian Parenting	3.21	0.45	.627	0.09	0.32
Permissive Parenting	2.95	0.47	.619	-0.18	-0.33

Note. Subscale means range from 1 (low) to 5 (high). Cronbach *α*s for Perfectionistic Strivings and Perfectionistic Concerns were calculated using all items from the respective Sport-MPS-2 and MIPS subscales used to represent the two variables.

Reliability. Internal consistency estimates (in the form of Cronbach alphas) were calculated for the three subscales of the PAQ and of the perfectionistic strivings and perfectionistic concerns dimensions. These estimates are presented in Table 1.

Estimates for perfectionistic strivings, perfectionistic concerns, and authoritative parenting were all greater than .70, indicating acceptable levels of internal consistency. The estimates for authoritarian parenting ($\alpha = .627$) and permissive parenting ($\alpha = .619$), however, were below this generally accepted standard. Subsequent analyses indicated that these estimates could not be increased through the deletion of any one item. Generally, when scores do not demonstrate high enough levels of internal consistency, they are removed from subsequent analyses. In the case of the present study, this action would be detrimental given that the authoritarian parenting and permissive parenting subscales were central to the study's ability to expand upon the parenting styles assessed by Sapieja et al. (2011). Additionally, Nunnally and Bernstein (1994) suggest that in early stages of instrument development, lower estimates of internal consistency can be acceptable. The version of the PAQ used in this study could be considered in such a stage of development given that it is, to the best of my knowledge, the first study to present items in reference to both parents. As a result, scores for authoritarian parenting and permissive parenting were utilized as originally calculated for all subsequent analyses. Results pertaining to these subscales should be interpreted with caution given their lower-than-ideal levels of internal consistency.

Univariate and multivariate normality. Table 1 also presents skewness and kurtosis for all variables. The magnitude of these values suggests acceptable levels of univariate normality (z-scores calculated from each subscale's skewness and kurtosis values were < 1.96 ; Tabachnick & Fidell, 2007). Screening of the data (using procedures recommended by Tabachnick & Fidell, 2007) did not reveal the presence of any multivariate outliers but did reveal two univariate outliers. In light of these potential outliers, analyses used to detect inter-cluster differences on perfectionistic strivings,

perfectionistic concerns, and the parenting styles subscales were conducted twice: once with the outliers included and once with the outliers removed. Subsequent comparison revealed that there were no significant differences between the two sets of results. In recognition of this lack of difference, and in an effort to maintain the integrity of the original sample, all findings presented in the remainder of this results section were determined using data with the two potential outliers included in the analyses.

Bivariate correlations. Table 2 presents bivariate correlations between perfectionistic strivings, perfectionistic concerns, and the three parenting styles. The strength of these correlations are described in accordance with recommendations made by Cohen (1988) (i.e., anything greater than 0.5 is large, 0.5-0.3 is moderate, 0.3-0.1 is small, and anything less than 0.1 is trivial). Perfectionistic strivings demonstrated a significant large positive correlation with perfectionistic concerns ($r = .65$). Both perfectionistic strivings and perfectionistic concerns had significant positive correlations with authoritarian parenting, although the relationship with perfectionistic concerns was relatively small ($r = .40$ and $.25$ respectively). Only perfectionistic strivings demonstrated a significant positive correlation with authoritative parenting ($r = .37$). Perfectionistic concerns demonstrated a significant, but small, positive correlation with permissive parenting ($r = .22$).

Table 2

Perfectionism Dimensions and PAQ Bivariate Correlations (r)

	Perfectionism		Parenting Style		
	PS	PC	AV	AN	PM
Perfectionistic Strivings-Dimension					
Perfectionistic Concerns	.65**				
Authoritative Parenting	.37**	.07			
Authoritarian Parenting	.40**	.25**	.40**		
Permissive Parenting	.00	.22*	.15	.11	

Note. Subscale abbreviations: PS = Perfectionistic strivings; PC= Perfectionistic concerns; AV= Authoritative Parenting; AN= Authoritarian Parenting; PM=Permissive Parenting.

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

Classification of Athletes by Perfectionistic Orientation

Sapieja et al. (2011) utilized a common two-stage cluster analytic protocol (as delineated by Hair, Black, Babin, & Anderson, 2010) to determine if youth soccer players with different perfectionistic orientations differed with regards to their perceptions of their parents' parenting styles. In line with the replicative nature of the present research, this study used the same protocol to investigate the same question among youth ice hockey athletes. The protocol combines the use of hierarchical and nonhierarchical clustering procedures. This allows for the multiple cluster solutions produced by the hierarchical methods to be "fine-tuned" by subsequent nonhierarchical methods (for a more detailed discussion, see Hair et al., 2010, p. 507–514). The SPSS statistical package (version 21) was used to conduct the cluster analytic protocol.

In the first stage of analysis, the athletes' mean-item perfectionist strivings and perfectionistic concerns scores were subjected to hierarchical cluster analysis using

Ward's method of cluster formation with squared Euclidean distance measures. This method produces multiple cluster solutions; the researcher is then faced with the challenge of deciding which solutions to carry forward for further analysis. The present study used a "stopping rule" based on changes in heterogeneity between successive cluster solutions for this purpose (Hair et al., 2010). Specifically, the agglomeration schedule produced from the hierarchical analysis (see Table 3) was examined to identify relatively large percentage changes between agglomeration coefficients associated with successive cluster solutions. Hair et al. (2010) state that when such changes occur, the prior cluster solution should be carried forward for further analysis as it potentially provides a good representation of the data (i.e., clusters with high intra-cluster similarity and low inter-cluster similarity). The largest percentage changes in the agglomeration schedule occurred when moving from a two- to a one-cluster solution. This is to be expected; due to the nature of cluster analysis, the largest percentage changes between agglomeration coefficients tend to occur as the agglomeration schedule proceeds toward a single cluster solution. There were also relatively large percentage changes when moving from a five- to a four-cluster solution, and from a four- to a three-cluster solution and a three- to a two-cluster solution. This suggested the retention of two-, three-, four- and five-cluster solutions for further analysis. However, the three-cluster solution and the four-cluster solution had the best potential to reflect the perfectionism models presented in the introduction (see also Lemyre, Hall, & Roberts, 2008) and to replicate the cluster solution produced in Sapieja et al.'s (2011) study. As a result, the three- and four-cluster solutions were carried forward to the second stage of analysis. In this second stage, each cluster solution was reanalyzed using nonhierarchical (K-means) cluster analysis with cluster centroids entered as seed points.

Tables 4 and 5 respectively present the mean scores across perfectionistic strivings and perfectionistic concerns for the three-cluster solution and the four-cluster solution produced by these nonhierarchical analyses.

Table 3

Agglomeration Schedule for Hierarchical Cluster Analysis

Number of Clusters	Agglomeration Coefficient	Percentage Change in Coefficient to Next Level
10	5.943	14.34
9	6.795	16.57
8	7.921	16.31
7	9.213	24.87
6	11.504	22.57
5	14.100	32.96
4	18.747	31.22
3	24.600	69.88
2	41.790	88.12
1	78.615	-

Table 4

Perfectionism Dimension Means and Standard Deviations for Four-Cluster Solution

	Cluster							
	C1		C2		C3		C4	
	(n = 15)		(n = 34)		(n = 23)		(n = 21)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Perfectionistic Strivings	4.58 _a	.28	3.30 _c	.50	3.82 _b	.23	3.17 _c	.26
Perfectionistic Concerns	4.00 _a	.43	2.27 _d	.27	3.45 _b	.21	3.01 _c	.18

Note. Within each row subscale means with the subscript 'a' are significantly higher than means with subscripts 'b', 'c', and 'd'; subscale means with the subscript 'b' are significantly higher than means with the subscripts 'c' and 'd'; subscale means with the subscript 'c' are significantly higher than means with the subscript 'd' (as determined through independent t-test with Bonferroni corrections; all $ps < .05$). All univariate F-tests were significant at $p < .001$.

Table 5

Perfectionism Dimension Means and Standard Deviations for Three-Cluster Solution

	Cluster					
	C1		C2		C3	
	(n = 17)		(n = 35)		(n = 41)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Perfectionistic Strivings	4.52 _a	.31	3.30 _b	.49	3.22 _b	.28
Perfectionistic Concerns	3.97 _a	.41	2.28 _c	.28	3.49 _b	.39

Note. Within each row subscale means with the subscript 'a' are significantly higher than means with subscript 'b' and 'c'; subscale means with the subscript 'b' are significantly higher than means with the subscripts 'c' (as determined through independent t-test with Bonferroni corrections; all $ps < .05$). All univariate F-tests significant at $p < .001$.

Inter-cluster Differences Across Perfectionism

When deciding between multiple cluster solutions, Hair et al. (2010) suggest that the most optimal solution can be identified on the basis of practical criteria, theoretical meaningfulness, and applicability to the purpose of the research. To aid in this process with regards to deciding between the three-cluster solution and the four-cluster solution, one-way multivariate analysis of variance (MANOVA) tests were conducted to determine whether the clusters within each solution differed across perfectionistic strivings and perfectionistic concerns. Cluster membership was entered as the independent variable and perfectionist strivings and perfectionistic concerns were entered as the dependent variables. If a significant multivariate test statistic was produced, follow-up univariate *F*-tests were conducted to identify significant between inter-cluster differences on both perfectionism dimensions. Mean contrasts (i.e., independent *t*-tests with Bonferroni corrections) were then conducted to identify which clusters differed on each perfectionist dimension. Effect sizes were computed for each contrast using Cohen's (1977) effect size index for independent samples (i.e., Cohen's *d*).

The results of the analyses for each set of cluster solutions were then compared in regards to congruency with the tripartite model of perfectionism (Stoeber & Otto, 2006), the 2 x 2 model of perfectionism (Gaudrea & Thompson, 2010), and a dimensional approach to perfectionism (Hewitt & Flett, 2002) to determine which cluster solution to carry forward.

Table 4 presents the results of this MANOVA protocol in regards to the four-cluster solution. A significant multivariate test statistic was obtained: Wilks's $L = .088$, $F(2, 90) = 69.79$, $p < .0001$, partial $\eta^2 = .704$. Follow-up univariate F -tests identified significant inter-cluster differences on both perfectionist dimensions ($p < .0001$: see Table 5). As seen in Table 4, Cluster 1 had the highest scores in both perfectionist strivings and perfectionistic concerns. Cluster 3 had higher scores in perfectionist strivings and perfectionistic concerns than Clusters 2 and 4. Clusters 2 and 4 did not differ in their perfectionist strivings scores but Cluster 2 had significantly lower perfectionistic concerns scores compared to Cluster 4. Effect sizes associated with these contrasts ranged from .31 to 5.31 and were suggestive of meaningful differences.

Based on the pattern of differences identified in these inter-cluster comparisons, the clusters identified in the four-cluster solution are in line with orientations identified in multiple perfectionism models/approaches. The profile of Cluster 1 is in line with descriptions of an unhealthy perfectionist (from the tripartite model), a mixed perfectionist (from the 2 x 2 model) or an individual with a high level of perfectionism (from a dimensional approach). As Clusters 2 and 4 demonstrated lower levels of perfectionistic strivings and concerns when compared to the other clusters, they could be argued as being in line with descriptions of a non-perfectionist (from the tripartite and 2 x 2 models) or of an individual with a lower levels of perfectionism (from the

dimensional approach). Cluster 3 did not have a profile in line with descriptions from categorical models of perfectionism, as it did not demonstrate exceptionally high or low levels of perfectionism, rather the scores were somewhere in between. It is important to note that several types of perfectionists represented in categorical models of perfectionism are not reflected among the four clusters produced in this solution (e.g., healthy perfectionists from the tripartite model and pure evaluative concerns perfectionists from the 2 x 2 model). In contrast, the four clusters do reflect a dimensional approach in that there were clusters with relatively high (e.g., Cluster 1), moderate (e.g., Cluster 3), and low (e.g., Clusters 2 and 4) levels of perfectionistic strivings and perfectionistic concerns.

Table 5 presents the results of this MANOVA protocol in regards the three-cluster solution. A significant multivariate test statistic was obtained: Wilks's $L = .137$, $F(2, 90) = 75.51$, $p < .0001$, partial $\eta^2 = .629$. Follow-up univariate F -tests identified significant inter-cluster differences on both perfectionist dimensions (both $ps < .0001$: see Table 6). As seen in Table 5, Cluster 1 had the highest scores in both perfectionist strivings and perfectionistic concerns. No significant differences existed between Clusters 2 and 3 with regards to perfectionist strivings scores, but Cluster 3 had higher scores than Cluster 2 in in regards to perfectionist concerns. Effect sizes associated with these contrasts ranged from .73 to 3.12 and were suggestive of meaningful differences.

Again, the clusters identified in the three-cluster solution are consistent with orientations identified in multiple perfectionism models/approaches. Cluster 1 could be representative of an unhealthy perfectionist (from the tripartite model), a mixed perfectionist (from the 2 x 2 model), or an individual with a high level of perfectionist (from a dimensional approach). The profile of Clusters 2 and 3, however, do not seem to

represent perfectionist orientations described in either the tripartite model or the 2 x 2 model. Cluster 3 could be representative of an individual with moderate levels of perfectionism (from a dimensional approach). Cluster 2 demonstrated lower levels of perfectionism, especially in regards to perfectionistic concerns. It is important to note that only two types of perfectionism represented in categorical models of perfectionism were reflected in the three-cluster solution. In contrast, the three clusters do reflect a dimensional approach in that there were clusters with relatively high (e.g., Cluster 1), moderate (e.g., Cluster 3), and low (e.g., Clusters 2) levels of perfectionistic strivings and perfectionistic concerns.

Both clusters solutions presented clusters that differed along a continuum of perfectionism, supporting a dimensional approach to perfectionism. Neither cluster solution offered a cluster that demonstrated the lowest scores on perfectionistic strivings when compared to the other clusters. The cluster solutions followed very similar patterns but the three-cluster solution demonstrated a more parsimonious solution. As a result, the three-cluster solution was carried forward to compare the clusters' perceptions of parenting styles. In line with the documented inter-cluster differences within this solution, the three clusters were labelled to reflect participants who possessed *High Strivings-High Concerns* (Cluster 1), *Moderate Strivings-Low Concerns* (Cluster 2), and *Moderate Strivings-Moderate Concerns* (Cluster 3) levels of perfectionism.

Inter-Cluster Differences Across Perceptions of Parenting Style

Having chosen the three-cluster solution as best representation of perfectionism within the sample, an additional one-way MANOVA was conducted to determine if differences existed between the clusters with regards to perceptions of parenting style. Cluster membership was entered as the independent variable and permissive, authoritative, and authoritarian parenting were entered as dependent variables. This analysis produced a significant multivariate test statistic: Wilks's $\Lambda = .797$, $F(2,90) = 3.524$, $p < .001$, partial $\eta^2 = .107$. Follow-up univariate F -tests identified significant inter-cluster differences for all PAQ subscales (all $ps < .0001$: see Table 6). Paralleling earlier analyses that tested for inter-cluster differences in perfectionism, mean contrasts were conducted to identify if the clusters differed on each PAQ subscale and effect sizes were computed for each contrast. Table 6 presents the results of these contrasts. Results showed that there were no differences between clusters in regards to permissive parenting. The high perfectionism cluster reported stronger perceptions of authoritative parenting in comparison to the moderate perfectionism-moderate concerns cluster and stronger perceptions of authoritarian parenting in comparison to the moderate perfectionism-low concerns cluster. No differences were detected between the moderate perfectionism-moderate concerns cluster and the moderate perfectionism-low concerns cluster in regards to any of the parenting subscales.

Table 6

Parenting Style Means, Standard Deviations and Univariate Statistics for Between-Cluster Comparisons

	Cluster					
	C1		C2		C3	
	High Strivings-High Concerns Perfectionism (n=17)		Moderate Strivings-Low Concerns Perfectionism (n=35)		Moderate Strivings-Moderate Concerns Perfectionism (n=41)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Authoritative Parenting	3.84 _a	.46	3.54 _{a,b}	.56	3.44 _b	.40
Authoritarian Parenting	3.48 _a	.55	3.08 _b	.42	3.20 _{a,b}	.40
Permissive Parenting	3.06	.42	2.80	.49	3.05	.44

Note. Within each row subscale means with the subscript 'a' are significantly higher than means with subscript 'b' and 'c'; subscale means with the subscript 'b' are significantly higher than means with the subscripts 'c' (as determined through independent t-test with Bonferroni corrections (all $p < .05$). All univariate F-tests significant at $p < .001$

Discussion

In an attempt to build upon a study conducted by Sapieja et al. (2011), this study examined whether youth athletes' perceptions of their parents' parenting style differed according to the athletes' perfectionistic orientation. The study also expanded upon Sapieja et al.'s study in several ways. First, while Sapieja et al. used the subscales from a single instrument to assess perfectionistic strivings and perfectionistic concerns, the present study assessed each of the two dimensions through the use of two subscales from two different instruments. Multiple measures for each dimension are ideal, as subscales from one instrument alone may not capture all characteristics of the dimensions (Stoeber et al., 2009). Second, Sapieja et al.'s findings were limited to perceptions of authoritative parenting; however, the present study included measures of

authoritarian and permissive parenting styles. Third, this study sampled male youth hockey players to examine the degree to which Sapieja et al.'s findings generalize to a sport context that is different from youth soccer.

In light of the previous research (Kawamura et al., 2002; Sapieja et al., 2011), it was thought that those hockey players' who demonstrated higher levels of perfectionistic strivings and higher levels of perfectionistic concerns would be more likely to perceive their parents' as being authoritarian and less likely than to perceive their parents as authoritative when compared to those who reported high levels of perfectionistic strivings and low levels of perfectionistic concerns. The study followed the methodology outlined by Sapieja et al., using cluster analysis to differentiate groups based upon levels of perfectionistic strivings and perfectionistic concerns and comparing those groups' scores across measures of perceived parenting style. In line with the hypothesis, the results demonstrated that athletes demonstrating high strivings-high concerns perfectionism perceived authoritarian parenting to a greater degree than athletes with moderate strivings-low concerns perfectionism. In contrast to the hypothesis, athletes with high strivings-high concerns perfectionism also perceived authoritative parenting to a greater degree than athletes with moderate strivings-moderate concerns perfectionism. As discussed in the remainder of this section, the results of this study provide insight into the structure of perfectionism in youth athletes, how perfectionist dimensions and different profiles of perfectionist orientations relate to perceptions of parenting styles, and finally how those findings contribute to existing theoretical approaches to perfectionism.

Relationships between Perfectionism Dimensions and Parenting Styles

In the present study, bivariate correlations were used to illustrate the independent links between the dimensions of perfectionism and perceived parenting styles. These relationships allow for comparison to the correlational findings of previous perfectionist research. Perfectionistic concerns demonstrated a significant but relatively small correlation with perceptions of authoritarian parenting. Authoritarian parents are described as having high levels of demandingness with low levels of responsiveness, meaning that they hold stringent expectations for their children and have little flexibility in these expectations (Baumrind, 1991). Authoritarian parenting has been consistently associated with negative child outcomes, such as increased aggression in children (Underwood, Beron, & Rosen, 2009), and decreased social functioning (Zhou, Eisenberg, Wang, & Reiser, 2004). Kawamura et al. (2002) observed a similar relationship between facets that reflect perfectionistic concerns and perceptions of authoritarian parenting among female college students. This relationship is in line with the perspective that perfectionistic concerns: a) reflect the tendency to perceive significant others as overly demanding and critical; and b) are associated with negative characteristics, processes, and outcomes (see Gotwals et al., 2012; Stoeber & Otto, 2006).

There was a relatively small correlation between perfectionistic concerns and permissive parenting ($r = .22$). Hewitt, Flett and Singer (1995) found a similar association ($r = .26$) between socially prescribed perfectionism, a type of perfectionism associated with high levels of perfectionistic concerns, and paternal permissiveness in a sample of female undergraduates. Hewitt, Flett and Singer (1995) described the correlation as “inexplicable” (p. 56). Permissive parenting is the only of Baumrind’s (1991) parenting styles that is not characterized by high levels of demandingness,

meaning permissive parents do not hold their children to stringent performance standards. Perfectionistic concerns are characterized by the tendency to perceive significant others as holding excessively high standards for them. If any relationship should exist between the two constructs, it should be negative.

Although Hewitt et al. (1995) described their positive correlation between a facet of perfectionistic concerns and perceptions of permissive parenting as being “inexplicable” (p. 56), a possible explanation does exist. Flett et al. (2002) have suggested that in the absence of clear standards from parents, youth might adopt high standards in an effort to gain approval from parents. This would suggest a positive correlation between perfectionistic concerns, as a dimension of perfectionism, and permissive parenting, a style of parenting defined by a lack of imposed standards. This interpretation is purely speculative and in need of empirical examination to gain traction.

Perfectionistic strivings demonstrated moderate positive relationships with perceptions of authoritative parenting and authoritarian parenting. Authoritative parents demonstrate high levels of demandingness but also high levels of responsiveness, meaning that while they have high expectations for their child, they are also sensitive to their child and flexible in those expectations (Baumrind, 1991). Authoritative parenting has been consistently associated with positive child outcomes such as adopting adaptive achievement strategies in school and active problem coping (Aunola et al., 2000; Wolfradt, Hempel, & Miles, 2003). Sapieja et al. (2011) did not demonstrate a significant relationship between facets of perfectionistic strivings measured by the Sport-MPS-2 (i.e., Personal Standards) and perceptions of authoritative parenting. The findings of the current study are in line with theories that

suggest perfectionist strivings represents adaptive characteristics. This relationship is in keeping with the perspective that perfectionistic strivings a) reflect the tendency to perceive significant others as desiring, but not demanding, high levels of achievement from them and b) are associated with positive characteristics, processes and outcomes (see Gotwals et al., 2012; Stoeber & Otto, 2006).

The correlation between perfectionistic strivings and authoritarian parenting is difficult to explain. As stated above, perfectionistic strivings are proposed to be associated with primarily positive outcomes while authoritarian parenting represents a negative construct. Interestingly, similar patterns of associations between perfectionistic strivings and both positive and negative outcomes have emerged in other perfectionism research (see Gotwals et al., 2012; Stoeber & Otto, 2006). Some researchers (see Dunn, Causgrove Dunn, & Syrotuik, 2002; Gotwals, 2011) suggest that this contradictory finding highlights the need to simultaneously consider levels across both perfectionistic strivings and perfectionistic concerns when determining how perfectionism relates to adaptive and maladaptive functioning. That is, the true nature of perfectionistic strivings can only be determined when levels across perfectionistic concerns are also simultaneously taken into account.

Structure of Perfectionism Among Youth Hockey Players

The use of cluster analysis allowed for both dimensions of perfectionism to be considered in the grouping of individuals. Analysis revealed several solutions, with each indicating that the sample could be grouped into a different number of clusters. Based upon (a) the agglomeration schedule (see Table 3) (b) comparisons of the clusters' scores across perfectionistic strivings and perfectionistic concerns, and (c) consideration of these scores in relation to models of, and approaches to, perfectionism, a three

cluster-solution was chosen to be carried forward in analyses. Athletes in Cluster 1 demonstrated the highest levels of both perfectionistic strivings and perfectionistic concerns. Athletes in Cluster 3 and Cluster 2 did not differ with regards to perfectionistic strivings but the athletes in Cluster 3 demonstrated increased levels of perfectionistic concerns.

The perfectionist profile of Cluster 1 could fit with multiple models of perfectionism. Within the dimensional approach, its relatively high levels of perfectionistic concerns and perfectionistic strivings would be consistent with the profile of an individual with high levels of perfectionism (Flett & Hewitt, 2002). Within the tripartite model, it would be consistent with the profiles of an unhealthy perfectionist (Stoeber & Otto, 2006). Finally, within the 2 x 2 model, it would be consistent with the profile of a mixed perfectionist (Gaudreau & Thompson, 2010). Cluster 2 demonstrated moderate levels of perfectionistic strivings with low levels of perfectionistic concerns when compared to other clusters. Cluster 2 cannot be described by types within categorical models. Cluster 3 demonstrated moderate perfectionistic strivings and moderate perfectionistic concerns and similarly lacked a categorical counterpart. These pairings of perfectionistic strivings and perfectionistic concerns are not described in either the tripartite model or the 2 x 2 model, as their perfectionistic groupings are distinguished by high or low (but not moderate) levels of the two perfectionistic dimensions. The moderate levels of perfectionist strivings and differing levels of perfectionistic concerns in Clusters 2 and 3 are only consistent with the dimensional approach's descriptions of a continuum of perfectionism (Broman-Fulks et al., 2008).

This study also found a large positive correlation between perfectionistic strivings and perfectionistic concerns. This correlation further supports the decision to carry

forward the three-cluster solution based on its fit with a dimensional approach to perfectionism. The correlation suggests a linear relationship between the two perfectionism dimensions among youth athletes: that is, it suggests that relatively high levels of perfectionistic strivings tend to be associated with relatively high levels of perfectionistic concern, that moderate levels of perfectionistic strivings tend to be associated with moderate levels of perfectionistic concerns, and low levels of perfectionistic strivings would be associated with low levels of perfectionistic concerns. This relationship supports the contention that perfectionism exists on a continuum that individuals can fall upon anywhere (Flett & Hewitt, 2002). Categorical models of perfectionism, though, identify types of perfectionists that are defined by opposing levels of perfectionistic strivings and perfectionistic concerns. For instance, healthy perfectionists are described as having high levels of perfectionistic strivings and low levels of perfectionistic concerns while pure evaluative concern perfectionists are described as having low levels of perfectionistic strivings and high levels of perfectionistic concerns. The positive correlation between perfectionistic strivings and perfectionistic concerns suggests that it would be unlikely for youth athletes to demonstrate either of these profiles.

One strength of the present study was that it allowed for an examination of whether the cluster solution produced by Sapieja et al. (2011)—which was based on a sample of male youth soccer players—could be reproduced in an independent sample comprised of youth athletes from a different sport (namely, hockey). Sapieja et al.'s cluster analysis yielded a three-cluster solution that reflected the tripartite model of perfectionism. That is, clusters were produced that reflected unhealthy perfectionism (high levels across both perfectionistic strivings and perfectionistic concerns), healthy

perfectionism (high levels of perfectionistic strivings and low levels of perfectionistic concerns), and non-perfectionism (low levels of perfectionistic strivings). Only one of these clusters was reproduced in the present study's cluster analysis. That is, while Sapieja et al.'s unhealthy perfectionism cluster shares a similar perfectionism profile as the present study's high perfectionism cluster, their healthy perfectionism clusters and non-perfectionism clusters did not parallel the perfectionism profiles exhibited by this study's moderate strivings-moderate concerns cluster or moderate strivings-low concerns cluster.

While unable to reproduce the perfectionist clusters from Sapieja et al. (2011), the cluster solution for this study does show some similarities to solutions produced in other sport perfectionism research utilizing cluster analysis. Nordin-Bates, Cummings, Away, and Sharp (2011) used the *Perfectionism Inventory* (PI; Hill et al., 2004) to assess perfectionism in a sample of dancers ($M_{age} = 19.19$, $SD = 2.66$). The PI was designed to measure an individual's perfectionism in their everyday lives and contains subscales that reflect facets of perfectionistic strivings (e.g., strive for excellence, planfulness) and perfectionistic concerns (e.g., concern over mistakes, need for approval). Nordin-Bates et al. (2011) cluster analyzed participants' responses to the PI and indicated that a 3-cluster solution provided the best fit for the data. The first cluster generally reported higher scores across the PI subscales in comparison to the other two clusters. Additionally, the second cluster generally reported higher scores across the PI subscales in comparison to the third cluster. In accordance with these differences, Nordin-Bates et al. respectively labelled the three clusters as dancers with perfectionist tendencies, dancers with moderate perfectionist tendencies and dancers with no perfectionist tendencies. The dancers with perfectionistic tendencies are similar to the

athletes with high strivings-high concerns perfectionism found in the current study, as they reported higher scores on subscales reflective of both perfectionistic strivings and perfectionistic concerns. The dancers with moderate perfectionistic tendencies were moderate in facets of both perfectionistic strivings and perfectionistic concerns, similar to the athletes who demonstrated moderate strivings-moderate concerns perfectionism in the current study. The current study did not produce a group of athletes that mirrored the profile of Nordin-Bates et al. (2011) dancers with no perfectionistic tendencies group.

In a sample of male youth hockey players ($M_{\text{age}} = 14.15$ years; $SD = 1.03$), Vallance et al. (2006) produced a three-cluster solution that similarly supported that perfectionism may lie on a continuum. The researchers relied upon the *Sport Multidimensional Perfectionism Scale* subscales (Sport-MPS; Dunn et al., 2002) to differentiate between perfectionist profiles. The Sport-MPS was designed to measure an individual's perfectionism in sport and contains subscales that reflect facets of perfectionistic strivings (e.g., personal standards) and perfectionistic concerns (e.g., concern over mistakes, perceived parental pressure). Cluster analysis of participants' scores indicated that a 3-cluster solution provided the best fit for the data. One cluster had significantly higher mean scores across subscales. A second cluster had significantly lower mean scores across all subscales when compared to the other clusters, with the third cluster falling between. They labelled these clusters as high perfectionism, moderate perfectionism and low perfectionism. The high perfectionism cluster was similar to the current high strivings-high concerns perfectionism cluster with higher scores on subscales reflecting both perfectionistic striving and perfectionistic concern. The moderate perfectionism cluster paralleled the dancers with moderate perfectionist tendencies found in Nordin-Bates et al. (2011) and the athletes with moderate strivings-

moderate concerns cluster in the current study, with moderate scores across all subscales. No parallel group existed in the current study for the low perfectionism group demonstrated in Vallance et al. (2006).

Despite the endorsement of dimensional approach across the studies, the current solution was inconsistent with those from of Nordin-Bates et al. (2011) and Vallance et al. (2006). Several other perfectionism studies utilizing cluster analysis have chosen solutions endorsing the tripartite model (e.g., Dunn, Causgrove Dunn, Gamache, & Holt, in press; Gotwals, 2011; Gucciardi, Mahoney, Jalleh, Donovan, & Parkes, 2012; Sapieja et al., 2011). Without a consistent pattern of perfectionist groupings across studies, the 'right' approach to perfectionism cannot be determined. These approaches (i.e., categorical and dimensional) are tied to distinct, and often opposing, predictions as to how perfectionism should influence outcomes, behaviours, and experiences. These predictions cannot be applied within sport psychology, leaving perfectionist athletes without appropriate coping strategies to avoid negative consequences.

Several actions could be taken to address this inconsistency. First, researchers need to be more transparent in reporting the criteria used in deciding final cluster solutions. For example, in the present study it was made clear which cluster-solutions were considered, the data analyses used to compare these solutions and the reasoning behind the final decision. This would allow researchers to use more consistent criteria in their final solutions for groupings based on perfectionism and for more accurate comparisons of results. Second, future studies may need to reconsider cluster analysis methods altogether. Bolin, Edwards, Finch, and Cassady (2014) have argued against the use of traditional methods of clustering, where an individual case can only belong to one cluster, favouring instead a soft clustering technique, where an individual case can

belong to more than one cluster. This “fuzzy” clustering might provide a more accurate depiction of groupings and the relationships that exist between those groupings (Bolin et al., 2014). Third, it might be worth experimenting with new approaches to grouping participants by perfectionism. Rice and Richardson (in press) suggest that it is difficult to accurately screen for perfectionists because high standards are central to perfectionism but most participants endorse high standards. This issue was apparent within the present study as no cluster demonstrated absolute low scores on measures of perfectionistic strivings. Rice and Richardson attempted to gain a more accurate representation of perfectionism scores by broadening the range and skewing on the Standards subscale from the Almost Perfect Scale-Revised (APS-R; Slaney, Mobley, Trippi, Ashby, & Johnson, 1996). In further studies, their suggestions should be considered with regards other measures of perfectionism to more accurately identify perfectionists and not those who simply endorse high personal standards. Taking these suggestions into account could advance our ability to accurately assess perfectionism and examine its’ consequences in a sport-based context.

Cluster Differences in Parenting Style

Mirroring Sapieja et al.’s (2011) approach, the present study used MANOVA to test for differences between clusters in terms of the perception of parenting styles. Athletes in the high perfectionism cluster were found to perceive authoritative parenting to a greater degree than those in the moderate perfectionism-moderate concerns cluster. These findings are in contrast to the hypothesis of this study and the findings of Sapieja et al. (2011). They found that a cluster of unhealthy perfectionists (who shared a similar profile to the high perfectionism cluster in the current study) had weaker perceptions of authoritative parenting when compared to all other clusters. This inconsistency is

perplexing given that perfectionism is often associated with the belief that high standards are inappropriately imposed by significant others (Stoeber & Otto, 2006), while authoritative parenting fosters self-regulation and choice (Baumrind, 1991).

A possible explanation for this relationship can be drawn from the 2 x 2 model of perfectionism. Gaudreau and Thompson (2010) suggested when high perfectionistic strivings are paired with high perfectionistic concerns, the perfectionistic strivings act as a buffer for the negative consequences normally associated with perfectionistic concerns. In this study, athletes in the moderate strivings-moderate concerns group scored lower on perfectionistic strivings when compared to athletes with high strivings-high concerns perfectionism, possibly leaving them more vulnerable to negative outcomes. This suggestion requires more direct testing of the 2 x 2 model's hypothesis with regards to parenting styles in order to be verified.

Sapieja et al.'s (2011) study focused on youth athletes' perceptions of the authoritative parenting style. This study made an effort to build upon these findings by including athletes' perceptions of permissive and authoritarian parenting styles. No differences were detected between clusters with regards to perceptions of permissive parenting. Supportive of this study's hypothesis, though, athletes in the high strivings-high concerns perfectionism cluster perceived authoritarian parenting to a greater degree than athletes in the moderate strivings-low concerns perfectionism cluster. This is the first time that this difference has been detected within a sport context. It is in accordance with previous research that has consistently associated higher levels of perfectionism with characteristics associated with authoritarian parenting (e.g., greater perceptions of parental pressure and expectations; see Rice et al., 1996; Speirs Neumeister, 2004) and supports the notion that perfectionism fosters perceptions of

significant others as sources of social pressure (Hewitt & Flett, 2002). Authoritarian parents are distinguished from authoritative parents by their lack of responsiveness towards their children and inflexibility towards the expectations they set for their children (Baumrind, 1991). Youth athletes who demonstrate high levels of perfectionistic strivings and perfectionistic concerns are described as fearing negative evaluations from others. As parents are a primary source of criticism for youth athletes, it would be logical to view their parents as being a source of those negative evaluations.

Future Research

The findings of the current study may shed some light on important relationships between levels of perfectionism and perceived parenting style in male youth hockey. There are several directions future studies may take to build upon these findings. For instance, future studies should explore whether the findings of this study generalized to female youth athletes. This is a concern given that perfectionism levels may differ based on gender (Dunn et al., 2005). Additionally, parents' attitudes towards their child's participation in sport have been found to differ based on the child's gender. As attitudes inform parenting styles, parents may actually demonstrate different parenting styles towards their sons' and daughters' participation in sport (Horn & Horn, 2007; Jacobs, Vernon, & Eccles, 2005). As it stands, it would be misguided to generalize the findings of this study to female youth athletes without replication in a female sample.

Future studies might also want to explore possible relationships between perfectionist tendencies and perceptions of neglectful parenting styles. Baumrind (1991) described neglectful parents as having low levels of demandingness and responsiveness, meaning that they essentially take little interest in the lives of their children. This parenting style is not represented with the PAQ and, as it was not included in

Baumrind's initial conceptualization of parenting styles, is rarely seen within parental involvement literature. However, there is potential for a relationship between perceptions of neglectful parents and perfectionism among youth. Flett and Hewitt (2002) have suggested that in the absence of parental expectations, children might adopt high personal standards for achievement as an attempt to gain approval and attention from their parents. Research investigating relationships between youth perfectionist tendencies and perceptions of parenting styles that includes a measure of neglectful parenting is required in order to test the relationship between parental expectations and perfectionistic strivings.

Previous literature has noted that as youth athletes progress in their sport, the importance placed upon the opinions and criticisms of coaches' increases (Wuerth et al., 2004). Similar to parents, coaches have been shown to have the potential to influence youth outcomes in sport (LaForge, Sullivan, & Bloom, 2012). Coaching behaviours have been positively associated with higher self-esteem, higher competency, increased enjoyment, and longer involvement in sport among players (Amorose & Anderson-Butcher, 2007; Conroy & Coatsworth, 2006; Scanlan & Lewthwaite, 1986; Smith, Zane, Smoll & Coppel, 1983). Coaching behaviours have also been cited as a reason for youth athletes' withdrawal from sport (Weiss & Williams, 2004). In line with these findings, it would be interesting to extend the focus of this study from youth athletes' perceptions of parenting style to their perceptions of coaching style. That is, future studies could: (a) explore whether high performance youth athletes' perceptions of their coaches' coaching styles differ based upon the athletes' perfectionistic orientation; (b) investigate the degree to which findings in regards to coaching style mirror findings in regards to parenting style; and (c) examine how trends in these findings change across time. This

information would be valuable in confirming anecdotal accounts of perfectionists perceiving pressure and fearing negative evaluations from significant others extending beyond parents and including authority figures such as coaches.

Limitations

The current study has several noteworthy limitations. First, given the cross-sectional nature of the study, the direction of causality cannot be inferred from the results. While the current results were presented as if differing levels of perfectionism influence youth athletes' perceptions of their parents' parenting styles, it is equally likely that different parenting styles influence youth athletes' development of perfectionism. Longitudinal studies tracking perfectionism and perceptions of parenting style over time would be beneficial in determining the direction of this relationship.

Second, the results should also be considered cautiously due to the small sample size. Hair and Black (1998) recommend that final cluster solutions should be cross validated by creating two subsamples (randomly splitting the sample), running a cluster analysis on data from both samples, and comparing the two cluster solutions for consistency in regards to the number of clusters and the cluster profiles. This gives the researcher confidence that the chosen solution is the "true" cluster solution (Roscoe, Sheth, & Howell, 1974). Unfortunately, the sample size in this study was not large enough to follow this recommendation: too small to split into two and maintain enough participants in each subsample to adequately represent all groups.

Third, the current study was also limited by its reliance on a collapsed measure of parenting styles. That is, items within the parenting style questionnaire were presented in reference to both parents, rather than being asked for both mothers and fathers. By treating the parents as a unit, the study could not compare youth athletes' perceptions of

mothers' and fathers' parenting styles separately. This limitation also does not allow for comparisons between perceptions of parenting styles in single-parent households versus dual-parent households. It should be noted that Kawamura et al. (2002) found that perceptions of mother authoritarianism were markedly higher than father authoritarianism among Caucasian undergraduates (mean scores on the PAQ's authoritarian subscale were 26.47 and 9.29, respectively). Future research is needed to clarify the degree to which perfectionists are sensitive to these differences. An interesting direction for such research to take would be to then examine if different combinations of parenting styles moderate the degree to which perfectionism is associated with healthy and unhealthy characteristics, processes, and outcomes.

Fourth, the findings pertaining to authoritarian parenting and permissive parenting should be considered with caution given that the PAQ subscales used to assess these two parenting styles demonstrated questionable internal consistency. This was surprising given that in past research among youth, PAQ subscales have demonstrated adequate levels of reliability (i.e., $\alpha < .70$). Gonzalez et al. (2002) utilized the PAQ in a sample of high school students and demonstrated acceptable reliability in all the subscales (Permissiveness-Mother $\alpha = .78$, Permissiveness-Father $\alpha = .74$, Authoritarianism-Mother $\alpha = .82$, Authoritarianism-Father $\alpha = .86$, Authoritativeness-Mother $\alpha = .83$, Authoritativeness-Father, $\alpha = .86$). Kawamura et al. (2002) administered the authoritarianism subscale from the PAQ to Caucasian-American and Asian-American undergraduate students and demonstrated acceptable reliability (For Caucasian-American students; Authoritarianism-Mother $\alpha = .90$, Authoritarianism-Father $\alpha = .94$; for Asian-American students; Authoritarianism-Mother $\alpha = .89$, Authoritarianism-Father $\alpha = .93$). Indeed, the PAQ was specifically chosen for use in

this study given that Sapieja et al. (2011) also reported internal consistency problems with the instrument they used to assess youth soccer players' perceptions of parenting style. This issue of the reliable assessment of youth athletes' perceptions of parenting style warrants further attention and perhaps a more depth examination is required to determine how best to measure these perceptions.

Conclusion

The aim of this study was to differentiate youth hockey players' perceptions of their parents' parenting style according to the athletes' perfectionistic orientation. The results suggest that a dimensional approach may more accurately reflect youth athletes' perfectionistic tendencies in comparison to a categorical. The study also demonstrated that youth athletes' perceptions of an authoritarian parenting style may be dependent on the degree to which those athletes also adhere to perfectionistic tendencies. Specifically, the present study's findings suggest that youth athletes who reported higher levels of perfectionism perceived authoritarian parenting styles to a greater degree than athletes with other levels of perfectionism. This highlights one of the study's primary contributions as no other sport-based study had examined relationships between perfectionism and authoritarian parenting. Furthermore, the results of this study suggest that athletes' perceptions of authoritative parents may be similarly dependent on ones' perfectionistic tendencies. Specifically, the current study demonstrated that athletes with higher levels of perfectionism perceived authoritative parenting to a greater degree than those with moderate levels of perfectionism. This finding is in contrast to the findings of previous sport-based research that has suggested athletes' with higher levels of perfectionism have weaker perceptions of authoritative parenting when compared to those with lower levels of perfectionism. Future studies need to focus

upon integrating a reliable measure of all parenting styles in sport-specific populations, exploring whether these patterns of perceptions of parenting styles can be found in female athletes and if perceptions of coaching styles mirror those of parenting styles. Conducting studies to gain a better understanding of the relationship between perfectionism and perceptions of parenting styles can benefit our understanding of the nature of perfectionism itself.

References

- Aldender, M. S. & Blashfield, R. K. (1984). *Cluster analysis*. Beverly Hill, CA: Sage Press.
- Amorose, A. J., & Anderson-Butcher, D. (2007). Autonomy-supportive coaching and self-determining motivation in high school and college athletes: A test of self-determination theory. *Psychology of Sport and Exercise, 8*, 654-670. doi: 10.1016/j.psychsport.2006.11.003
- Appleton, P. R., Hall, H. K., & Hill, A. P. (2011). Examining the influence of the parent-initiated and coach-created motivational climate upon athletes' perfectionistic cognitions. *Journal of Sports Sciences, 7*, 661-671. doi: 10.1080/02640414.2010.551541
- Aunola, K., & Nurmi, J. (2005). The role of parenting styles in children's problem behaviour. *Child Development, 76*, 1144-1159. doi: 10.1111/j/1567-8624.2005.00840.x-i1
- Aunola, K., Stattin, H., Nurmi, J. (2000). Parenting styles and adolescents' achievement strategies. *Journal of Adolescence, 23*, 205-222. doi: 10.1006/jado.2000.0308
- Baumrind, D. (1991). Parenting styles and adolescent development. In J. Brooks-Gunn, R. Lerner, & A. C. Petersen (Eds.), *The encyclopedia of adolescence* (pp. 746-758). New York: Garland.
- Bolin, J. H., Edwards, J. M., Finch, W. H., & Cassady, J. C. (2014). Applications of cluster analysis to the creation of perfectionism profiles: A comparison of two clustering approaches. *Frontiers in Psychology, 5*, 1-9. doi: 10.3389/fpsyg.2014.00343

- Broman-Fulks, J. J., Hill, R. W., & Green, B. A. (2008). Is perfectionism categorical or dimensional? A taxometric analysis. *Journal of Personality Assessment*, *90*, 481-490. doi: 10.1080/00223890802248802
- Bronte-Tinkew, J., Moore, K. A., & Carrano, J. (2006). The father-child relationship, parenting styles, and adolescent risk behaviors in intact families. *Journal of Family Issues*, *27*, 850-881. doi:10.1177/0192513X05285296
- Brustad, R. J., & Partridge, J. A. (2002). Parental and peer influence on children's psychological development through sport. In F.L. Smoll & R.E. Smith (Eds.), *Children and youth in sport: A biopsychosocial perspective* (2nd ed., pp. 187-210). Dubuque, IA: Kendall/Hunt.
- Burns, D.D. (1980). The perfectionist's script for self-defeat. *Psychology Today*, *14*, 34-52.
- Cencer, D. (2008). Dropping the puck and dropping out of the sport of hockey. *The Sport Digest*, *16*(2). Retrieved from <http://thesportdigest.com/archive/tags/volume-16-number-2>
- Chan, K., & Chan, S. (2007). Hong Kong teacher education students' goal orientations and perceived parenting styles. *Educational Psychology*, *27*, 157-172. doi: 10.1080/01443410601066636
- Cohen, J. (1977). *Statistical power analysis for the behavioral sciences*. New York: Academic Press.
- Cohen, J. (1988). *Statistical power analysis for the behaviour sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Conroy, D. E., & Coatsworth, D. J. (2006). Coach training as a strategy for promoting youth social development. *The Sport Psychologist*, *20*, 128-144.

- Côté, J. (1999). The influence of the family in the development of talent in sport. *The Sport Psychologist*, 13, 395–417. Retrieved from <http://journals.humankinetics.com/tsp>
- Cremades, J. G., Donlon, C. J., Poczwadowski, A. (2013). Parental involvement and gender differences in the psychological profile of freshmen collegiate athletes. *Journal of Sport and Health Science*, 2, 160-167. doi: 10.1016/j.jshs.2012.05.001
- Darling, N., Cumsille, P., Caldwell, L. L., & Dowdy, B. (2006). Predictors of adolescents' disclosure to parents and perceived parental knowledge: Between- and within-person differences. *Journal of Youth and Adolescence*, 35, 667–678. doi: 10.1007/s10964-006-9058-1
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin*, 3, 487-496. doi: 10.1037/0033-2909.113.3.487
- Darling, N., & Toyokawa, T. (1997). *Construction and validation of the Parenting Style Inventory II*. The Pennsylvania State University: Internal publication.
- Dunn, J. G. H., Causgrove Dunn, J. L., Gamache, V., & Holt, N. L. (in press). A person-oriented examination of perfectionism and slump-related coping in female intercollegiate volleyball players. *International Journal of Sport Psychology*.
- Dunn, J. G. H., Causgrove Dunn, J. L., Gotwals, J. K., Vallance, J. K. H., Craft, J. M., & Syrotuik, D. G. (2006). Establishing construct validity evidence for the Sport Multidimensional Perfectionism Scale. *Psychology of Sport and Exercise*, 7, 57-79. doi: 10.1016/j.psychsport.2005.04.003
- Dunn, J. G. H., Causgrove Dunn, J. L., & Syrotuik, G. (2002). Relationship between multidimensional perfectionism and goal orientations in sport. *Journal of Sport*

- & *Exercise Psychology*, 24, 376–395. Retrieved from
<http://journals.humankinetics.com/jsep>
- Dunn, J. G. H., Gotwals, J. K., & Causgrove Dunn, J. L. (2005). An examination of the domain specificity of perfectionism among intercollegiate student-athletes. *Personality and Individual Differences*, 38, 1439–1448.
- Flett, G. L., & Hewitt, P. L. (2006). Positive versus negative aspects of perfectionism in psychopathology: A comment on Slade and Owen's dual process model. *Behavior Modification*, 30, 472-495. doi: 10.1177/0145445506288026
- Flett, G. L., & Hewitt, P. L. (2005). The perils of perfectionism in sports and exercise. *Current Directions in Psychological Science*, 14, 14-18. doi: 10.1111/j.0963-7214.2005.00326.x
- Flett, G. L., & Hewitt, P. L. (2002). Perfectionism and maladjustment: An overview of theoretical, definitional, and treatment issues. In G. L. Flett & P. L. Hewitt (Eds.), *Perfectionism: Theory, research, and practice* (pp. 5-31). Washington, DC: American Psychological Association.
- Flett, G. L., Hewitt, P. L., Blankstein, K. R., & Mosher, S. W. (1995). Perfectionism, life events, and depressive symptoms: a test of a diathesis-stress model. *Current Psychology*, 14, 112-137. doi: 10.1007/BF02686885
- Flett, G. L., Hewitt, P. L., Oliver, J. M., & Macdonald, S. (2002). Perfectionism in children and their parents: a developmental analysis. In G. L. Flett & P. L. Hewitt (Eds.), *Perfectionism: Theory, research, and practice* (pp. 89-132). Washington, DC: American Psychological Association.
- Fredricks, J. A., & Eccles, J. S. (2004). Parental influences on youth involvement in sports. In M. R. Weiss (Ed.), *Developmental sport and exercise psychology: A*

- lifespan perspective* (pp. 145-164). Morgantown, WV: Fitness Information Technology.
- Frost, R. O., Marten, P. A., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research, 14*, 449-468.
doi: 10.1007/BF01172967
- Gaudreau, P. (2013). The 2 x 2 model of perfectionism: Commenting the critical comments and suggestions of Stoeber (2012). *Personality and Individual Differences, 54*, 100-105. doi: 10.1016/j.paid.2013.03.02
- Gaudreau, P., & Antl, S. (2008). Athletes' broad dimensions of dispositional perfectionism: Examining changes in life satisfaction and the mediating role of sport-related motivation and coping. *Journal of Sport & Exercise Psychology, 30*, 356-382. Retrieved from <http://journals.humankinetics.com/jsep>
- Gaudreau, P., & Thompson, A. (2010). Testing a 2 × 2 model of dispositional perfectionism. *Personality and Individual Differences, 48*, 532-537. doi: 10.1016/j.paid.2009.11.031
- Gaudreau, P., & Verner-Filion, J. (2012). Dispositional perfectionism and well-being: A test of the 2 x 2 model of perfectionism in the sport domain. *Sport, Exercise, and Performance Psychology, 1*, 29-43. doi: 10.1037/a0025747
- Gonzalez, A. R., Doan Holbein, M. F., & Quilter, S. (2002). High school students' goal orientations and their relationship to perceived parenting styles. *Contemporary Educational Psychology, 27*, 450-470. doi: 10.1006/ceps.2001.1104
- Gould, D., Lauer, L., Rolo, C., Jannes, C., & Pennisi, N. (2006). Understanding the role parents play in tennis success: A national survey of junior tennis coaches. *British Journal of Sports Medicine, 40*, 632-636. doi: 10.1136/bjism.2005.024927

- Gotwals, J. K., Dunn, J. G. H., & Causgrove Dunn, J., & Gamache, V. (2010). Establishing construct validity evidence for the Sport Multidimensional Perfectionism Scale-2. *Psychology of Sport and Exercise, 11*, 423-432. doi: 10.1016/j.psychsport.2010.04.013
- Gotwals, J. K., Stoeber, J., Dunn, J. G. H., & Stoll, O. (2012). Are perfectionistic strivings in sport adaptive? A systematic review of confirmatory, contradictory and mixed evidence. *Canadian Psychology, 54*, 263-269. doi: 10.1037/a00302800
- Green, P.E., Carmone, F. J., & Smith, S. M. (1989). *Multidimensional scaling: Concepts and applications*. Needham Heights, MA: Allyn & Bacon Inc.
- Gucciardi, D.F., Mahoney, J., Jalleh, G., & Donovan, R.J., & Parkes, J. (2012). Perfectionistic profiles among elite athletes and differences in their motivational orientations. *Journal of Sport & Exercise Psychology, 34*, 159-183. Retrieved from <http://journals.humankinetics.com/jsep>
- Hair, J. F., & Black, W.C. (1998). Cluster analysis. In J. R. Hair, Jr., R. E. Anderson, R. L. Tatham & W.C. Black (Eds.), *Multivariate data analysis*. Upper Saddle River, NJ: Prentice-Hall Inc.
- Hair, J. F., & Black, W. C. (2000). Cluster analysis. In L. G. Grimm & P. R. Yarnold (Eds.), *Reading and understanding more multivariate statistics* (pp. 147-205). Washington, DC: American Psychological Association.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Pearson Education.
- Hamachek, D. E. (1978). Psychodynamics of normal and neurotic perfectionism. *Psychology, 15*, 27-33. Retrieved from <http://www.scirp.org/journal/psych/>

- Hardy, L., Jones, J., & Gould, D. (1996). *Understanding psychological preparation for sport*. New York: John Wiley & Sons.
- Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology*, *60*, 456-470. doi: 10.1037/0022-3514.60.3.456.
- Hewitt, P. L., & Flett, G. L. (1993). Dimension of perfectionism, daily stress, and depression: A test of the specific vulnerability hypothesis. *Journal of Abnormal Psychology*, *102*, 58-65. doi: 10.1037/0021-843X.102.1.58
- Hewitt, P. L., Flett, G. L., Besser, A., Sherry, S. B., McGee, B. (2003). Perfectionism is multidimensional: a reply to Shafran, Cooper and Fairburn (2002). *Behaviour Research and Therapy*, *41*, 1221-1236. doi: 10.1016/S0005-7967(03)00021-4
- Hewitt, P. L., Flett, G. L., & Ediger, E. (1995). Perfectionism traits and perfectionistic self-presentation in eating disorder attitudes, characteristics, and symptoms. *International Journal of Eating Disorders*, *18*, 317-327. doi: 10.1002/1098-108X
- Hewitt, P. L., Flett, G. L., & Singer, A. (1995). Perfectionism and parental authority styles. *Individual Psychology*, *51*, 50-60. Retrieved from <http://www.utexas.edu/utpress/journals/jip.html>
- Hewitt, P. L., Mittelstaedt, W., & Flett, G. L. (1990). Perfectionism and performance importance in subclinical depression. *Individual Psychology*, *46*, 67-73. Retrieved from <http://www.utexas.edu/utpress/journals/jip.html>

- Hill, A. P. (2013). Perfectionism and burnout in junior soccer players: A test of the 2 x 2 model of dispositional perfectionism. *Journal of Sport & Exercise Psychology*, 35, 18-29. Retrieved from <http://journals.humankinetics.com/jsep>
- Hill, R. W., Huelsman, T. J., & Araujo, G. (2010). Perfectionistic concerns suppress associations between perfectionistic strivings and positive life outcomes. *Personality and Individual Differences*, 48, 584-589. doi: 10.1016/j.paid.2009.12.011
- Hill, R. W., Huelsman, T. J., Furr, R. M., Kibler, J., Vicente, B. B., & Kennedy, C. (2004). A new measure of perfectionism: The Perfectionism Inventory. *Journal of Personality Assessment*, 82, 80–91. doi: 10.1207/s15327752jpa8201_13
- Holt, N. L., Tamminen, K. A., Black, D. E., Mandigo, J. L., & Fox, K. R. (2009). Youth sport parenting styles and practices. *Journal of Sport & Exercise Psychology*, 31, 37-59. Retrieved from <http://journals.humankinetics.com/jsep>
- Horn, T. S., & Horn, J. L. (2007). Family influences on children's sport and physical activity participation, behaviour, and psychosocial responses. In G. Tenenbaum, & R. C. Eklund (Eds.). *Handbook of sport psychology* (3rd ed.). (pp. 685-711). Hoboken, NJ, US: John Wiley & Sons Inc.
- Hoyle, R. H., & Leff, S. S. (1997). The role of parental involvement in youth sport participation and performance. *Adolescence*, 32, 233-243. Retrieved from <http://www.vjf.cnrs.fr/clt/php/va/>
- Hurtel, V., & Lacassagne, M. F. (2011). Parents' perceptions of their involvement in their involvement in their child's sport activity: A propositional analysis of discourse. *Journal of Language and Social Psychology*, 30, 421-439. doi: 10.1177/0261927X11416206

- Ishak, Z., Low, S. F., & Lau, P. L. (2012). Parenting style as a moderator for students' academic achievement. *Journal of Science, Education, and Technology*, 21, 487-493. doi: 10.1007/s10956-011-9340-1
- Jacobs, J. E., Vernon, M. K., & Eccles, J. S. (2005). Activity choice in middle childhood: the role of gender, self-beliefs, and parents' influence. In J. L. Mahoney, R. W. Larson, & J. S. Eccles (Eds.), *Organized activities as contexts of development: Extracurricular activities, after school and community programs* (pp. 235-254). Mahwah, NJ: Psychology Press.
- Jowett, G. E., Hill, A. P., Hall, H. K., & Curran, T. (2013). Perfectionism and junior athlete burnout: The mediating role of autonomous and controlled motivation. *Sport, Exercise, and Performance Psychology*, 2, 48-61. doi: 10.1037/a0029770
- Juntumaa, B., Keski-Vaara, P., & Punamäki, R.L. (2005). Parenting, achievement practices and satisfaction in ice hockey. *Scandinavian Journal of Psychology*, 46, 411-420. doi: 10.1111/j.1467-9450.2005.00472.x
- Kawamura, K. Y., Frost, R. O., & Harmatz, M. G. (2002). The relationship of perceived parenting styles to perfectionism. *Personality and Individual Differences*, 32, 317-327. doi: 10.1016/S0191-8839(01)00026-5
- Laforge, K., Sullivan, P. J., & Bloom, G. A. (2012). Coaching behaviours in Canadian youth sport. *Athletic Insight*, 4, 251-263. Retrieved from <https://www.novapublishers.com>
- Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development*, 62, 1049-1065.

- Lauer, L., Gould, D., Roman, N., & Pierce, M. (2010). Parental behaviors that affect junior tennis player development. *Psychology of Sport & Exercise, 11*, 487-496. doi: 10.1016/j.psychsport.2010.06.008
- Lee, S. M., Daniels, M. H., & Kissinger, D. B. (2006). Adjustment: Parenting styles versus parenting practices. *The Family Journal: Counseling and Therapy for Couples and Families, 14*, 253-259. doi: 10.1177/1066480706287654
- Lundh, L. G. (2004). Perfectionism and Acceptance. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 22*, 255-269. Retrieved from <http://www.springerlink.com/content/104937/>
- McArdle, S., & Duda, J. L. (2008) Exploring the etiology of perfectionism and perceptions of self-worth in young athletes. *Social Development, 17*, 980-997. doi: 10.1111/j.1467-9507.2007.00456.x
- Miller, A. L., Lambert, A. D., Speirs Neumeister, K. L. (2012). Parenting style, perfectionism, and creativity in high ability and high achieving young adults. *Journal for the Education of the Gifted, 35*, 344-365. doi: 10.1177/0162353212459257
- Missildine, W. H. (1963). *Your inner child of the past*. New York: Simon and Schuster.
- Nijhof, K. S., & Engels, R. C. M. E. (2007). Parenting styles, coping strategies, and the expression of homesickness. *Journal of Adolescence, 30*, 709-720. doi: 10.1016/j.adolescence.2006.11.009
- Nordin-Bates, S. M., Cummings, J., Away, D., & Sharp, L. (2011). Imagine yourself dancing to perfection? Correlates of perfectionism among ballet and contemporary dancers. *Journal of Clinical Sport Psychology, 5*, 58-76. Retrieved from <http://journals.humankinetics.com/jcsp>

- Nunnally, J. C., & Bernstein, I. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Oates, J., Lewis, C., & Lamb, M. E. (2005). Parenting and attachment. In S. Ding & K. Littleton (Eds.), *Children's social and personal development* (pp. 11-52). Maldan, MA: Blackwell Publishing.
- O'Rourke, D. J., Smith, R. E., Smoll, F. L., & Cumming, S. P. (2011) Trait anxiety as a function of parental pressure and motivational climate: Is parental pressure always harmful? *Journal of Applied Sport Psychology*, *23*, 398-412. doi: 10.1080/10413200.2011.552089
- Parker, W. D. (1997). An empirical typology of perfectionism in academically talented children. *American Educational Research Journal*, *34*, 545-562. doi: 10.3102/00028312034003545
- Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*, 879-903. doi: 10.1037/0021-9010.88.5.879
- Rudasill, K. M., Adelson, J. L., Callahan, C. M., Houlihan, D. V., & Keizer, B. M. (2013). Gifted students' perceptions of parenting styles: Associations with cognitive ability, sex, race, and age. *Gifted Child Quarterly*, *57*, 15-24. doi: 10.1177/0016986212460886
- Rice, K. G., & Ashby, J. S. (2007). An efficient method for classifying perfectionists. *Journal of Counseling Psychology*, *54*, 72-85. doi: 10.1037/0022-0167.54.1.72

- Rice, K. G., Ashby, J. S., & Preusser, K. J. (1996). Perfectionism, relationships with parents, and self-esteem. *Individual Psychology, 52*, 246-260. Retrieved from <http://www.utexas.edu/utpress/journals/jip.html>
- Rice, K. G., Lopez, F. G., & Vergera, D. (2005). Parental/social influences on perfectionism and adult attachment orientations. *Journal of Social and Clinical Psychology, 24*, 580-605. Retrieved from <http://guilfordjournals.com/loi/jscp>
- Rice, K.G., & Mirzadeh, S. A. (2000). Perfectionism, attachment, and adjustment. *Journal of Counseling Psychology, 47*, 238–250. doi: 10.1037/0022-0167.47.2.238
- Rice, K. G. & Richardson, C. M. E. (in press). Classification challenges in perfectionism. *Journal of Counseling Psychology*.
- Roscoe, A. M., Sheth, J. N., & Howell, W. “Intertechnique Cross Validation in Cluster Analysis,” AMA Educators Conference, Portland, Oregon, 1974, *Combined Proceedings*, Chicago: AMA, 1974.
- Sapieja, K. M., Dunn, J. G. H., & Holt, N. L. (2011). Perfectionism and perceptions of parenting styles in male youth soccer. *Journal of Sport & Exercise Psychology, 33*, 20-39. Retrieved from <http://journals.humankinetics.com/jsep>
- Scanlan, T. K., & Lewthwaite, R. (1986). Social psychological aspects of the competitive sport experience for male youth sport participants: IV. Predictors of enjoyment. *Journal of Sport Psychology, 8*, 25–35. Retrieved from <http://journals.humankinetics.com/jsep>
- Schafer, W. D. (2001). Replication: a design principle for field research. *Practical Assessment, Research & Evaluation, 7*(15). Retrieved from <http://PAREonline.net/getvn.asp?v=7&n=15>

- Sherry, S. B., Hewitt, P. L., Sherry, D. L., Flett, G. L., & Graham, A. R. (2010). Perfectionism dimensions and research productivity in psychology: Implications for understanding the (mal)adaptiveness of perfectionism. *Canadian Journal of Behavioural Science, 42*, 273-283. doi: 10.1037a0020466
- Slaney, R. B., Mobley, M., Trippi, J., Ashby, J., & Johnson, D. G. (1996). *The Almost Perfect Scale-Revised*. Unpublished manuscript, The Pennsylvania State University, University Park, PA.
- Smith, R. E., Zane, N. W. S., Smoll, F. L., & Coppel, D. B. (1983). Behavioral assessment in youth sports: Coaching behaviors and children's attitudes. *Medicine and Science in Sports and Exercise, 15*, 208–214.
- Speirs Neumeister, K. L. (2004). Factors influencing the development of perfectionism in gifted college students. *Gifted Child Quarterly, 48*, 259–275. doi: 10.1177/001698620404800402
- Speirs Neumeister, K. L., Kay Williams, K., & Cross, T. L. (2009). Gifted high-school students' perspectives on the development of perfectionism. *Roeper Review, 31*, 198-201. doi: 10.1080/02783190903177564
- Steinberg, L. (2005). Families. In *Adolescence* (7th ed, pp. 132-163). New York: McGraw-Hill.
- Steinberg, J., Lamborn, S. D., Dornbusch, S. M., & Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development, 63*, 1266-1281. doi: 10.1111/j.1467-8624.1992.tb01694.x

- Stoeber, J. (2012). The 2 x 2 model of perfectionism: A critical comment and some suggestions. *Personality and Individual Differences, 53*, 541-545. doi: 10.1016/j.paid.2012.04.029
- Stoeber, J., & Childs, J. H. (2012). Perfectionism. In R. J. R. Levesque (Ed.), *Encyclopedia of adolescence* (pp. 2053-2059). New York: Springer.
- Stoeber, J. & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review, 10*, 295-319. Retrieved from <http://psr.sagepub.com/>
- Stoeber, J., Otto, K., Pescheck, E., Becker, C., & Stoll, O. (2007). Perfectionism and competitive anxiety in athletes: Differentiating striving for perfection and negative reactions to imperfection. *Personality and Individual Differences, 42*, 959-969. doi: 10.1016/j.paid.2006.09.006
- Stoeber, J., Stoll, O., Pescheck, E., & Otto, K. (2008). Perfectionism and goal orientations in athletes: Relations with approach and avoidance orientations in mastery and performance goals. *Psychology of Sport and Exercise, 9*, 102–121. doi:10.1016/j.psychsport.2007.02.002
- Stoeber, J., Stoll, O., Salmi, O., & Tiikkaja, J. (2009). Perfectionism and achievement goals in young Finnish ice-hockey players aspiring to make the Under-16 national team. *Journal of Sports Sciences, 27*, 85-94. doi: 10.1080/02640410802448749.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Boston: Pearson/Allyn & Bacon.
- Tan, P., Steinbach, M., & Kumar, V. (2005). *Introduction to data mining*. Boston: Pearson/Addison-Wesley.

- Turner, E. A., Chandler, M., & Heffer, R. W. (2009). The influence of parenting styles, achievement motivation, and self-efficacy on academic performance in college students. *Journal of College Student Development, 50*, 337-346.
doi:10.1353/csd.0.0073
- Underwood, M. K., Beron, K. J., & Rosen, L. H. (2009). Continuity and change in social and physical aggression from middle childhood through early adolescence. *Aggressive Behaviour, 35*, 357-375. doi: 10.1002/ab.20313
- Vallance, J. K. H., Dunn, J. G. H., & Causgrove Dunn, J. L. (2006). Perfectionism, anger, situation criticality in competitive youth ice hockey. *Journal of Sport & Exercise Psychology, 28*, 383-406. Retrieved from
<http://journals.humankinetics.com/jsep>
- Weiss, M. R., & Williams, L. (2004). The why of youth sport involvement: A developmental perspective on motivational processes. In M.R. Weiss (Ed.), *Developmental sport and exercise psychology: A lifespan perspective* (pp. 223-268). Morgantown, WV: Fitness Information Technology.
- Wolfradt, U., Hempel, S., & Miles, J. N. V. (2003). Perceived parenting styles, depersonalization, anxiety and coping behaviour in adolescents. *Personality and Individual Differences, 34*, 521-532. doi: 10.1016/S0191-8869(02)00092-2
- Wuerth, S., Lee, M. J., & Alfermann, D. (2004). Parental involvement and athletes' career in youth sport. *Psychology of Sport and Exercise, 5*, 21-33.
doi:10.1016/S1469-0292(02)00047-X
- Zarghmi, M., Ghamary, A., Shabani, S. E. H. S., & Varzaneh, A. G. (2010). Perfectionism and achievement goals in adult male elite athletes who compete at the national

level and above. *Journal of Human Kinetics*, 26, 147-155. doi: 10.2478/v10078-010-0058-6

Zinsser, N., Bunker, L., & Williams, J. M. (1998). Cognitive techniques for building confidence and enhancing performance. In J. M. Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* (3rd ed., pp. 270-295). Mountain View, CA: Mayfield.

Zhou, Q., Eisenberg, N., Wang, Y., and Reiser, M. (2004). Chinese children's effortful control and dispositional anger/frustration: Relations to parenting styles and children's social functioning. *Developmental Psychology*, 40, 352-366. doi: 10.1037/0012-1649.40.3.352

Appendix A

Letter to League Administrators

February, 2013

Dear Sir/Madam,

We would respectfully like to ask for your assistance in a research study to be carried out by Lindsey Wachter, a student in the Master of Science program in Kinesiology at Lakehead University. The investigation, "Parental Involvement in Youth Sport: Perceptions of Perfectionist Youth Hockey Players", consists of two stages. Stage 1 involves the completion of a questionnaire packet that will take no longer than 20 minutes to complete. Based on the questionnaire responses, some participants will be invited to take part in Stage 2, partaking in a one-on-one interview lasting approximately 45 minutes. The findings from this study will help to develop a better understanding of the complicated nature of parental involvement in youth sport by expanding on previous research in the area. The information from this study will inform a thesis project and will shed light on what behaviours are associated with appropriate and beneficial parental involvement in youth hockey. The purpose of this letter is to ask you for your permission to contact head coaches in your organization about having their respective teams participate in this study.

Your assistance has been requested as you are an administrator of a hockey organization in Northwestern Ontario. Specifically, you have access to potential participants who meet the eligibility requirement for the current study, any male youth hockey player who is a member of a bantam or midget 'AA' or 'AAA' team is invited to participate. A full description of the study and what is involved for potential participants is attached for you to review, which also outlines parental and athlete consent. Once completed, a summary of the findings from this study will be sent to you, if you wish.

With your assistance the student researcher would like to identify and contact head coaches of team whose members meet the eligibility requirements in order to request their permission to recruit their players as potential participants.

We hope you find the attached project of interest. Please feel free to contact me if you have queries. Alternatively, you may also contact my supervisor, Dr. Joey Farrell. The Lakehead University Research Ethics Board has approved this project and, if you have any questions or concerns regarding the ethics, you may contact the Research Ethics Board at (807) 343-8283 or via email at research@lakeheadu.ca.

Thank-you for your assistance,

Yours truly,

Ms. Lindsey Wachter
Graduate Student
(807) 252-2953 or lewachte@lakeheadu.ca

Dr. Joey Farrell
Research Faculty Supervisor
(807) 346-7754 or joey.farrell@lakeheadu.ca

Appendix B Letter to Coaches

February 2013

Dear Coach,

We would respectfully like to ask for your assistance in a research study to be carried out by Lindsey Wachter, a student in the Master of Science program in Kinesiology at Lakehead University. The investigation, "Parental Involvement in Youth Sport: Perceptions of Perfectionist Youth Hockey Players", consists of two stages. Stage 1 involves the completion of a questionnaire packet that will take no longer than 20 minutes to complete. Based on the questionnaire responses, some participants will be invited to take part in Stage 2, partaking in a one-on-one interview lasting approximately 45 minutes. The findings from this study will help to develop a better understanding of the complicated nature of parental involvement in youth sport by expanding on previous research in the area. The information from this study will inform a thesis project and will shed light on what behaviours are associated with appropriate and beneficial parental involvement in youth hockey. The purpose of this letter is to ask you for your permission to recruit the members of your team as potential participants in the study.

Your assistance has been requested as you are the coach of a 'AA' or 'AAA' hockey team in Northwestern Ontario. Specifically, you have access to potential participants who meet the eligibility requirement for the current study, any male youth hockey player who is a member of a bantam or midget 'AA' or 'AAA' team is invited to participate. A full description of the study and what is involved for potential participants is attached for you to review. Once completed, a summary of the findings from this study will be sent to you, if you wish.

If you allow us to recruit your team, we will ask you to assist us with two tasks. First, we will need you to either distribute information letters about the study to parents or allow a time where we can distribute them. Second, we will ask you to help schedule 2 meetings; a voluntary parent/athlete meeting to address any questions and concerns they may have about the study and a meeting before or after a practice for the athletes to complete questionnaires.

We hope you find the attached project of interest. Please feel free to contact me if you have queries. Alternatively, you may also contact my supervisor, Dr. Joey Farrell. The Lakehead University Research Ethics Board has approved this project and, if you have any questions or concerns regarding the ethics, you may contact the Research Ethics Board at (807) 343-8283 or via email at research@lakeheadu.ca.

Thank-you for your assistance,

Yours truly,

Ms. Lindsey Wachter
Graduate Student
(807) 252-2953 or lewachte@lakeheadu.ca

Dr. Joey Farrell
Research Faculty Supervisor
(807) 346-7754 or joey.farrell@lakeheadu.ca

Appendix C Information Letter

February 2013

Dear Parent/Guardian and Athlete,

We invite the athlete's participation in a research study to be carried out by Lindsey Wachter, a student in the Master of Science program in Kinesiology at Lakehead University. The investigation, "Parental Involvement in Youth Sport: Perceptions of Perfectionist Youth Hockey Players", has been approved by Lakehead University Ethics Board, Hockey Northwestern Ontario, and your child's coach. The athlete's participation has been requested, as he is a male youth hockey player who competes on a Bantam or Midget 'AA/AAA' team in Northwestern Ontario. Participation will help to better understand the complicated nature of parental involvement in youth sport by expanding on previous research in the area. The information from this study will be used to inform a thesis project and will shed light on what behaviours are associated with appropriate and beneficial parental involvement in youth hockey.

The study consists of two stages. Stage 1 involves the completion of a questionnaire packet. If you choose to consent to participation, information about the athlete, his perceptions of parenting style, and his personal standards in sport will be collected. Copies of the questionnaires can be provided upon request. The questionnaire packets will be completed at a time arranged with the coach to coincide before or after a practice and should take no longer than 20 minutes to complete. Based on the questionnaire responses, some participants will be invited to take part in Stage 2, which involves partaking in a one-on-one interview to further discuss parent behaviours in hockey. These athletes and their parents will be contacted with more details about Stage 2.

There are no foreseeable risks associated with participation in this study; however participation is voluntary and, at any point during the study, the athlete may decline to answer any question, refuse to participate, or withdraw, without any penalty or consequence. Although there are no direct benefits associated with participation in this study, the findings of this investigation will be beneficial in gaining a better understanding of parent involvement in youth hockey and have the potential to inform guidelines and parental education programs for appropriate parenting behaviours in youth sport.

Confidentiality and anonymity will be maintained to the highest degree. Any information provided by the athlete will be linked to an id number and the athlete's identity and identifying features will not be included in the findings of this study. Coaches will not be aware of athletes that have been identified as potential participants for Stage 2 or those who agree to further participation. The graduate student researcher and her faculty supervisor will have access to the data collected during the course of this study, which will be securely stored in a locked filing cabinet or password protected computer at Lakehead University. The data, upon completion, will be stored for a minimum of five years with Dr. Joey Farrell in the School of Kinesiology in accordance with the Lakehead University ethics policy.

If the information gathered in this study is published in a peer-reviewed journal or presented at a conference, participant anonymity and confidentiality will be maintained. Upon completion of the study, a summary of the research results will be provided to you upon request.

If you wish to allow participation in this study, please complete the attached consent form. If you have any questions or concerns, a meeting will be held on _____. Completion of the questionnaires will take place on _____. The consent form can be returned at the voluntary meeting or be sent with your child. Athletes will be asked to provide their consent immediately before completing the questionnaire package.

The Lakehead University Research Ethics Board has approved this project and may be contacted at (807) 343-8283 or via email at research@lakeheadu.ca.

Thank-you for your cooperation,

Yours truly,

Ms. Lindsey Wachter
Graduate Student
(807) 252-2953 or lewachte@lakeheadu.ca

Dr. Joey Farrell
Research Faculty Supervisor
(807) 346-7754 or joey.farrell@lakeheadu.ca

Appendix D

Demographic Information Sheet

Age (to the nearest month) _____

Experience playing organized hockey (years) _____

Age Division (Check the appropriate box)

Bantam Midget

Competitive level of current team (Check the appropriate box)

'AA' 'AAA'

Indicate with whom you reside during the hockey season (Check the appropriate box)

Both parents With billet family

Single parent-Father Single parent-Mother

Other

(please explain) _____

Appendix E

YOUR PERSONAL STANDARDS IN HOCKEY

INSTRUCTIONS The purpose of this questionnaire is to identify how players view certain aspects of their competitive experiences in sport. Please help us to more fully understand how players view a variety of their competitive experiences by indicating the extent to which you **agree or disagree** with the following statements. (Circle one response option to the right of each statement). Some of the questions relate to your sport experiences in general, while others relate specifically to experiences on the team that you have most recently played with. **There are no right or wrong answers** so please don't spend too much time on any one statement; simply choose the answer that best describes how you view each statement.

To what extent do you agree with the following statements?	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
1. During training, I feel extremely stressed if everything does not go perfectly.	1	2	3	4	5
2. The fewer mistakes I make in competition, the more people will like me.	1	2	3	4	5
3. I have extremely high goals for myself in my sport.	1	2	3	4	5
4. During training, I have the wish to do everything perfectly.	1	2	3	4	5
5. During training, I feel the need to be perfect.	1	2	3	4	5
6. In something does not go perfectly during training, I am dissatisfied with the whole training session.	1	2	3	4	5
7. If I do not set the highest standards for myself in my sport, I am likely to end up a second-rate player.	1	2	3	4	5
8. If I fail in competition, I feel like a failure as a person.	1	2	3	4	5
9. People will probably think less of me if I make mistakes in competition.	1	2	3	4	5
10. I feel that other players generally accept lower standards for themselves in sport than I do.	1	2	3	4	5
11. If a teammate or opponent (who plays a similar to me) plays better than me during competition, then I feel like I failed to some degree.	1	2	3	4	5
12. During training, I get frustrated if I do not fulfill my high expectations.	1	2	3	4	5
13. It is important to me that I am thoroughly competent in everything I do in my sport.	1	2	3	4	5
14. During training, I strive to be as perfect as possible.	1	2	3	4	5
15. Even if I fail slightly in competition, for me, it is as bad as being a complete failure.	1	2	3	4	5
16. I set higher achievement goals that most athletes who play my sport.	1	2	3	4	5

17.	I should be upset if I make a mistake in competition	1	2	3	4	5
18.	During training, I get completely furious if I make mistakes.	1	2	3	4	5
19.	During training, it is important to be perfect in everything I attempt.	1	2	3	4	5
20.	If I do not do well in competition, I feel that people will not respect me as an athlete.	1	2	3	4	5
21.	During training, I am a perfectionist as far as my targets are concerned.	1	2	3	4	5
22.	I think I expect higher performance and greater results in my daily sport-training than most players	1	2	3	4	5
23.	I hate being less than the best at things in my sport.	1	2	3	4	5
24.	If I play well but only make one obvious mistake in the entire game, I still feel disappointed with my performance.	1	2	3	4	5
25.	After training, I feel depressed if I have not been perfect	1	2	3	4	5

Appendix F

PARENTAL AUTHORITY QUESTIONNAIRE

INSTRUCTIONS For each of the following statements, circle the number of the 5-point scale (1 = strongly disagree, 5 = strongly agree) that best describes how that statement applies to you and your parents. Try to read and think about each statement as it applies to you and your parents during your years of growing up at home. There are no right or wrong answers, so don't spend a lot of time on any one item. Be sure not to omit any items.

If your parents were separated or divorced before you reached age 12, think about the parent with whom you spent the most time when you answer the questions

To what extent do you agree with the following statements?	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
1. My parents feel that in a well-run home the children should have their way in the family as often as the parents do.	1	2	3	4	5
2. Even if their children don't agree with them, my parents feel that it is for our own good if we are forced to agree with what they think is right.	1	2	3	4	5
3. Whenever my parents tell me to do something, they expect me to do it immediately without asking any questions.	1	2	3	4	5
4. Once family policy has been established, my parents discuss the reasoning behind the policy with the children in the family.	1	2	3	4	5
5. My parents always encourage verbal give-and-take whenever I feel that family rules and restrictions are unfair.	1	2	3	4	5
6. My parents always feel that what children need is to be free to make up their own minds and to do what they want to do, even if this does not agree with what their parents might want.	1	2	3	4	5
7. My parents do not allow me to question any decision they make.	1	2	3	4	5
8. My parents direct the activities and decisions of the children in the family through reasoning and discipline.	1	2	3	4	5
9. My parents always feel that parents should use more force in order to get their children to behave the way they are supposed to.	1	2	3	4	5
10. My parents do not feel that I need to obey rules and regulations of behavior simply because someone in a position of authority has established them.	1	2	3	4	5
11. I know what my parents expect of me in my family, but I also feel free to discuss those expectations with my parents when I feel that they are unreasonable.	1	2	3	4	5
12. My parents feel that wise parents should teach their children early who is boss in the family.	1	2	3	4	5
13. My parents seldom give me expectations and guidelines for my behavior.	1	2	3	4	5

14.	Most of the time, my parents do what the children in the family want when making family decisions.	1	2	3	4	5
15.	My parents consistently give me direction and guidance in rational and objective ways.	1	2	3	4	5
16.	My parents get very upset if I try to disagree with them.	1	2	3	4	5
17.	My parents feel that most problems in society would be solved if parents would not restrict their children's activities, decisions, and desires as they are growing up.	1	2	3	4	5
18.	My parents let me know what behavior they expect of me, and if I don't meet those expectations, they punish me.	1	2	3	4	5
19.	My parents allow me to decide most things for myself without a lot of direction from them.	1	2	3	4	5
20.	My parents take the children's opinions into consideration when making family decisions but they would not decide something simply because the children want it.	1	2	3	4	5
21.	My parents do not view themselves as responsible for directing and guiding my behavior.	1	2	3	4	5
22.	My parents have clear standards of behavior for the children in our home, but they are willing to adjust those standards to the needs of each of the individual children in the family.	1	2	3	4	5
23.	My parents give me direction for my behavior and activities and they expect me to follow their direction, but they are always willing to listen to my concerns and to discuss that direction with me.	1	2	3	4	5
24.	My parents allow me to form my own point of view on family matters and they generally allow me to decide for myself what I am going to do.	1	2	3	4	5
25.	My parents always feel that most problems in society would be solved if we could get parents to strictly and forcibly deal with their children when they don't do what they are supposed to as they are growing up.	1	2	3	4	5
26.	My parents often tell me exactly what they want me to do and how they expect me to do it.	1	2	3	4	5
27.	My parents give me clear directions for my behaviors and activities, but they also understand when I disagree with them.	1	2	3	4	5
28.	My parents do not direct the behaviors, activities, and desires of the children in the family.	1	2	3	4	5
29.	I know what my parents expect of me in the family and they insist that I meet those expectations simply out of respect for their authority.	1	2	3	4	5
30.	If my parents make a decision in the family that hurts me, they are willing to discuss that decision with me and to admit it if they had made a mistake.	1	2	3	4	5

Appendix G

PARENTAL CONSENT FORM

To be completed by the parent/guardian of the research participant

I have read and understand the information letter and agree to allow my child to participate in Stage 1 of the study, “Parental Involvement in Youth Sport: Perceptions of Perfectionist Youth Hockey Players” being conducted by Ms. Lindsey Wachter, a Masters Student in the School of Kinesiology at Lakehead University under the supervision of Dr. Joey Farrell.

I have read and understand:

- That there is minimal risk to my child’s participation and that his participation will help better understand of parental involvement in youth hockey.
- That my child’s participation is completely voluntary and that he can drop out of the study or decline to answer questions at any point during the study.
- That in Stage 1 of the study, my child will complete a demographic information sheet, a parenting style questionnaire, and personal standards in sport questionnaire.
- That there is a possibility that based on questionnaire responses, my child will be asked to participate in Stage 2 of the study, consisting of a one-on-one interview.
- That my child and myself are free now, and in the future, to ask any questions about the study.
- That I have the right not to have my child participate and the right to stop his participation at any time, without consequence and that his information will be removed from the study at my request.
- The issue of confidentiality and I understand who has access to my child’s data.
- That the information provided by my child will be securely stored for a minimum of 5 years with Dr. Joey Farrell in the School of Kinesiology at Lakehead University.
- That, upon my request, a summary of the research findings will be sent to me upon completion of the study.
- That any information presented in the academic community will maintain my child’s anonymity and confidentiality.

I hereby consent to having my child participate in Stage 1:

Signature of Parent/Guardian

Date

Name of Child

If requested, I would be willing to allow my child's participation in Stage 2 of this study (Circle your response)

Yes No

I would like to receive a summary of the results of this study (Circle your response)

Yes No

If you responded yes to either question please provide contact information

Name: _____

Phone: _____

Email: _____

Appendix H

ATHLETE CONSENT FORM

To be completed by the research participant

I have read and understand the information letter and agree to participate in Stage 1 of the study, “Parental Involvement in Youth Sport: Perceptions of Perfectionist Youth Hockey Players” being carried out by Ms. Lindsey Wachter, a Masters Student in the School of Kinesiology at Lakehead University under the supervision of Dr. Joey Farrell.

I have read and understand:

- That there is minimal risk to my participation and that my participation will help better understand of parental involvement in youth hockey.
- That my participation is completely voluntary and that I can drop out of the study or decline to answer questions at any point during the study.
- That I will complete a demographic information sheet, parenting style questionnaire, and personal standards in sport questionnaire.
- That there is a possibility that based on my responses on the questionnaires, I will be asked to participate in Stage 2 of the study, consisting of a one-on-one interview.
- That I am free now, and in the future, to ask any questions about the study.
- That I have the right not to participate and the right to stop my participation at any time, without consequence and that my information will be removed from the study at my request.
- The issue of confidentiality and I understand who has access to my data.
- That the information I provide will be securely stored for a minimum of 5 years with Dr. Joey Farrell in the School of Kinesiology at Lakehead University
- That upon completion of the study, and upon my request, a summary of the findings will be sent to me.
- That any information presented in the academic community will maintain my anonymity and confidentiality.

I hereby consent in Stage 1 of the study,

Signature of Athlete

Date

Name of Athlete: _____
(please print)

I would like to receive a summary of the results of this study (Circle your response)

Yes No

If yes, please provide contact information

Name: _____

Email: _____