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The Role of Relatedness in Youth Athlete Burnout

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THE ROLE OF RELATEDNESS IN YOUTH ATHLETE BURNOUT

by

MEGAN S. WITTENBERG

Under the Direction of Brandonn Harris

ABSTRACT

The Aspen Institute's 2016 State of Play report projects a decline in youth sport participation that is more pronounced in adolescent athletes. Although there are numerous potential benefits for youth sport participation, there are also potential consequences including burnout (chronic psychological syndrome consisting of emotional and physical exhaustion, reduced sense of accomplishments, and sport devaluation (Raedeke, 1997). Approximately 1% to 9% of adolescent athletes experienced elevated levels of burnout, with current research suggesting that relatedness could have an influence on athlete burnout. In this instance, relatedness was defined as the extent to which individuals perceives significant others are genuinely invested in them (Markland et al., 2005). The current literature indicates differences in the incidences of burnout based on gender. With regards to adolescents specifically, the relationships with teammates, parents, and coaches might be influential. Thus, the purpose of this study was to examine the influence of relatedness, athlete gender, and sport type had on athlete burnout. A sample of 105 student-athletes ($n_{\text{male}} = 43$, $n_{\text{female}} = 62$) were recruited from high schools in Southeastern Georgia. Participants completed a demographic questionnaire, the Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001), and an adapted Need for Relatedness Scale (NRS-10; Richer & Vallerand, 1998). Multiple regression analysis revealed in this sample, teammate and coach relatedness predicted sport devaluation and teammate

relatedness predicted reduced sense of accomplishment. Further study is needed with a larger sample to determine whether these relationships persist.

INDEX WORDS: Burnout, Adolescent athletes, Relatedness, Self-determination theory, Teammate relatedness, and Coach relatedness

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B.S., Arizona State University, 2014

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DEDICATION

I dedicate my thesis to my parents, David and Celeste, and my brothers, Matthew and Brennan.

Your continued support has made it possible for me to continue pursuing my dreams.

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CHAPTER 1

INTRODUCTION

Enrolling youth in sport is a common occurrence within the United States. According to the National Council of Youth Sports (2008), an estimated 60 million youth were involved with youth sport; however, there is a discrepancy as to whether youth sport participation is increasing or decreasing over time. Notably, the Aspen Institute's 2016 State of Play report details a decline in youth sport participation that is more pronounced in adolescent athletes ages 13 to 17.

However, the Physical Activity Council (2017) reported contrary findings, suggesting that there has actually been an increase in team sport participation. Additionally, Merkle (2013) provided an overview of the positive and negative consequences associated with youth sport participation and indicate that a range of 70% to 80% of youth sport participants cease participation by the time they reach the age of 15. The following are a few of the reasons for youth sport attrition that have been cited in the literature: (a) lack of enjoyment; (b) other non-sport activities; (c) age; (d) amotivation; (e) negative perception of ability; and (f) overtraining/overuse injuries (Balish, McLaren, Rainham, Blanchard, 2014; Butcher, Linder, & Johns, 2002; Cervello, Escarti, & Guzman, 2007; DiFiori et al., 2014). Sport attrition is one of the possible outcomes of participating in youth sport; however, there are also numerous positive benefits associated with youth sport involvement.

A plethora of studies indicate the immense benefits a child can gain from sport participation. Numerous amounts of studies illustrate the physiological and psychological benefits of involvement in sport and physical activity. Such benefits are not limited to the following: (a) prevents overeating in youth and diminishes the likelihood of making unhealthy lifestyle choices; (b) serves as a platform for the further development of gross motor skills; (c)

augments academic performance; (d) decreases psychological dysfunction; (e) lessens the likelihood of engaging in risky behaviors such as drug and alcohol abuse; and (f) decreases suicidal ideation (Pate, Trost, Levin, & Dowda, 2000). More specific to sport, youth athletes exhibit superior goal setting skills, time management skills, emotional and social competence, leadership and cooperation skills, increased motivation for continued participation in sport, and greater self-esteem (Dawes, Vest, & Simpkins, 2014; Hansen, Larson, & Dworkin, 2003; Taliaferro, Rienzo, Miller, Pigg, & Dodd, 2008).

Aside from the positive outcomes associated with youth sport participation, researchers have also identified certain negative consequences that can also occur. For example, sport related injuries are a common part of sport participation (Frisch, Croisier, Urhausen, Seil, & Theisen, 2009; Merkel, 2013). It is estimated that at least half of all injuries reported in youth athletes are the result of overuse due to increased training exposure (Merkle, 2013). Factors such as early sport specialization also increase the likelihood of overuse injuries occurring (DiFiori et al., 2014). In conjunction with the physiological component of injuries, there is also the potential for athletes to experience psychological symptoms that include things such as feelings of isolation. Stress has also been recognized as a contributor to the development of athlete burnout (Cohn, 1990; Raedeke & Smith, 2004; Smith, 1986). Prolonged stress in young athletes has the potential to develop into some form of depression. Similarly, De Francisco and colleagues (2016) found that athletic burnout could also potentially contribute to athletes developing depression.

Additionally, Coakley (1992) proposed that early sport specialization puts young athletes on the track of identity foreclosure, which is one of the documented negative consequences associated with early sport specialization. Other associated consequences of early sport

specialization include but are not limited to increased likelihood of overuse injuries, a greater chance of experiencing overtraining syndrome, and possibly burnout (Myer et al., 2015).

Burnout

As previously noted, burnout is one of the many consequences of youth sport involvement and has been reported in children as young as ten years of age (Feigley, 1984). Numerous variations of the definition of burnout are found throughout the psychology literature; however, one of the most widely used in the sport psychology was developed by Raedeke (1997). Based on Maslach's definition, the author defined burnout as a chronic psychological syndrome consisting of emotional and physical exhaustion, reduced sense of sport accomplishments, and sport devaluation. Additionally, it is important to recognize that burnout is a multifaceted construct as illustrated by the given definition. Emotional and physical exhaustion is the result of the physical and psychosocial demands of sport participation (Raedeke, 1997). The second construct, reduced sense of accomplishment, tends to manifest as negative evaluations of athletic performance and ability (Raedeke, 1997). Lastly, sport devaluation is a detachment from sport that can be accompanied by a lack of concern about performance quality (Raedeke, 1997). According to Goodger and colleagues (2007), emotional and physical exhaustion is characterized by things such as feelings of isolation and lack of motivation and energy. Similarly, sport devaluation could be characterized by a lack of motivation, while reduced sense of accomplishment can be characterized by lack of improvement and underperformance.

Burnout is not instantaneous; rather the development of burnout for sport participants is a gradual process. Recent studies have been focused on detecting precursors to the development of burnout in athletes (Cresswell, 2009; Goodger, Wolfenden, & Lavalley, 2007; Moen, Myhre,

Klockner, Gausen, & Sandbakk, 2017). More specific to youth athletes, Goodger, Wolfenden, and Lavalley (2007) identified a series of symptoms and consequence of burnout and provided support for Raedeke's (1997) conceptualization of athlete burnout. Symptoms of physical and emotional exhaustion included feelings of isolation and lack of motivation and energy, which is consistent with previous findings (Coakley, 1992; Cresswell & Eklund, 2006; Gould et al., 1997). Using a sample of professional rugby players, Cresswell (2009) identified potential early signs of burnout and determined that adequate perceptions of social support served as a protective factor to mitigate the development of burnout. Additionally, Moen and colleagues (2017) concluded that positive affect, the expectation of a positive outcome, negatively predicted burnout. Meanwhile, negative affect and worry significantly directly positively impacted burnout in high-level junior athletes. Perceived performance, illness, and injuries were also found to have a significant indirect impact on burnout. It also important to recognize the consequences that occur after an athlete experiences burnout; however, there is little empirical research that examines the consequences of burnout (Gould & Whitley, 2009). Few of the known consequences include dropping out of sport and dropping in and out of sport on numerous occasions (Gould & Whitley, 2009).

Burnout among young athletes. Due to the nature of athlete burnout, it is difficult to quantify how many children and adolescents truly experience burnout over the course of their sport careers. Gustafsson and colleagues (2007) estimated that anywhere from 1% to 9% of adolescent athletes rated themselves as experiencing an elevated level of burnout. Rotella and colleagues (1991) asserted that a trend in treating youth athletes similar to professional athletes has facilitated an increased likelihood of burnout occurring among younger athletic

demographics. Specifically, Harris and Watson (2014) reported higher incidences of burnout within high school aged student-athletes in comparison to younger athletes.

Though the information is sparse, there are some studies that indicate differences in the incidences of adolescent athlete burnout between sport type and gender (Ahmed, Ho, & Lee, 2015; Gustafsson et al., 2007; Isoard-Gauthier, Guillet-Descas, Gaudreau, & Chanal, 2015). Gustafsson and colleagues' (2007) analysis concluded that male athletes participating in team sports reported higher scores on the Eades Burnout Inventory Measure (EABI) while the reverse was observed in female athletes. These findings may be indicative of relatedness acting as a greater protective factor against burnout for female athletes. Of particular interest, Markland and colleagues (2005) suggested relatedness denotes the extent to which individuals perceive that significant others are genuinely invested in them and their well-being. Though not examining athlete burnout, Salmela-Aro and Tynkynen (2012) drew similar conclusions that female adolescent students reported lower levels of school burnout that could possibly be attributed to the satisfaction of the need for relatedness serving as a protective factor. Similarly, Isoard-Gauthier and colleagues (2015) found that female adolescents scored significantly higher on the reduced sense of accomplishment subscale of the Athlete Burnout Questionnaire in comparison to the male participants in the study.

Gould and colleagues published a comprehensive series of both qualitative and quantitative studies detailing the burnout experience for junior tennis players, which included adolescent tennis players within the sample (1996a; 1996b; 1997). Several factors were identified that differentiated tennis players who had greater levels of burnout from athletes with lower EABI scores. Antecedents included less autonomy regarding training schedule, higher likelihood of participation in high school tennis, greater chance of playing in a higher age

division, training fewer days, displayed higher levels of amotivation, acting more withdrawn, differing scores on numerous perfectionism subscales, a decreased likelihood of implementing planning coping skills, and reduced positive interpretations and growth coping.

Coakley (1992) proposed relying on a more sociological approach to understanding the burnout process. The author observed that participation in a single sport early in life fosters an environment that makes it difficult for an athlete to develop identities outside of sport. Coakley noted that there was a scarcity of burnout reported in athletes in team sport and offered a couple of explanations for his observation. First, the presence of teammates allows an athlete the opportunity to develop identities that are not directly related to sport. Secondly, teammates have the potential to serve as a buffer between controlling parents or coaches providing an athlete with a sense of autonomy and independence.

Black and Smith (2007) applied Coakley's theory (1992) using a sample of young swimmers (including adolescent athletes). Data analyses by the authors indicated that there is partial support for the use of Coakley's model when examining athlete burnout. Moreover, Harris and Watson (2014) found support for the use of Coakley's model helpful to further understand the athlete burnout phenomenon observed in youth athletes.

Additionally, Brodtkin and Weiss (1990) examined developmental differences in motivation of swimmers across the lifespan. More specifically, results highlighted the need to be noticed by others and popularity with others as important motives for high school and college aged swimmers (15-22 yrs.). The influence of friends and parents were a central motivating factor for older children's (10-14 yrs.) swimming participation. Thus, a high school athletic demographic is well suited to examine how feeling of a sense of relatedness can impact the experience of burnout related symptoms. Additionally, it has now been suggested that high

school-aged children (15-17 yrs.) have reported higher amounts of burnout related symptoms when compared to younger athletes (Harris & Watson, 2014). The listed studies indicate a need to further examine burnout within the high school-aged athlete population.

Burnout Models

Burnout research in the sports realm has been emerging since the 1980s, which has led to the emergence of several theories to aid in the conceptualization of athlete burnout. Though there are similarities among some the models, each model provides a unique lens to examine athlete burnout. In particular, Deci and Ryan's self-determination theory (1985; 2000) has been gaining popularity as a theory to further researchers understanding of the athlete burnout phenomenon. Though scarcely examined within the adolescent athlete population, based off of the literature utilizing an older age demographic it can be inferred that the self-determination theory and basic psychological needs theory could be a useful framework in examining burnout in adolescent athletes.

The self-determination theory. The self-determination theory (SDT) is a motivation theory that has been used to understand the development of burnout within the athlete population. Deci and Ryan (1985; 2000) postulate that individuals pursue goals in order to satisfy their basic psychological needs, which can be used to determine the motivation of a specific person. The SDT is comprised of five mini theories, which includes the following: the cognitive evaluation theory (CET), organismic integration theory (OIT), causality orientation theory (COT), basic psychological needs theory (BPNS), and goals contents theory (GCT; Deci & Ryan, 1985, 2000). Many studies of athlete burnout implement the use of both the cognitive evaluation theory and organismic integration mini theories of SDT as the theoretical framework to gain insight into the phenomenon.

The basic psychological needs theory has also been emerging in the literature examining athlete burnout. The basic needs determined by the authors include the following: the need for autonomy (sense of control), a feeling of competence (individual belief and belief of others in abilities), and feeling a sense of relatedness. According to Markland and colleagues (2005) the following definition of relatedness can be implemented: the extent to which individuals perceive that significant others are genuinely invested in them and their well-being. Specifically, Li and colleagues (2013) conducted a meta-analysis of literature as it pertains to the BPNS and to provide insight about the applicability of this model as a framework to further the understanding of athlete burnout. Analyses of the data indicated that the three basic psychological needs were a positively predicted protection against global burnout (competence ($\beta = -.34$, $p < .01$), autonomy ($\beta = -.28$, $p < .01$), and relatedness ($\beta = -.18$, $p < .01$)). Li et al. (2013) concluded that relatedness was the weakest predictor of global athlete burnout.

According to Moen and colleagues (2015), BPNS is an important mini theory to aid with the understanding of the burnout process. Numerous studies using the BPNS to examine burnout have either focused on all three of the psychological needs, or placed a strong emphasis on autonomy (Hodge, Lonsdale, & Ng, 2008; Moen, Federici, & Abrahamsen, 2015; Perreault, Gaudreau, Lapointe, & Lacroix, 2007; Quested et al., 2013; Raabe & Readdy, 2016). The lack of research examining relatedness could possibly be attributed to a couple of factors. First, early studies have demonstrated that autonomy is an effective means to support all three basic psychological needs. Additionally, measures that examine specific relationships among sport stakeholders in sport contexts are scarce. Research has now begun to focus on the impact relatedness has on athletes and preliminary results demonstrated that relatedness support had an influence on the retention of young female golfers within the sport (Williams, Whipp, Jackson,

& Dimmock, 2013). The authors of the aforementioned study determined via qualitative analysis that female golfers who continued to participate in the sport felt that their parents provided them with unconditional emotional support regardless of competition performance when compared to those who lapsed participation with golf. A positive athlete-coach relationship was also found to aid in retention. It is of interest to note that both active and inactive young female golfers found little support from peers outside of golf.

Relatedness

As noted earlier, feeling a sense relatedness with others is one of the basic psychological needs when fulfilled promotes a greater sense of well-being (Deci & Ryan 1985; 2000). Much of an adolescent athlete's time is spent interacting with other influential people (such as teammates and coaches) in their lives due to training schedule demands (Froyen & Pensgaard, 2014; Raabe & Zakrajsek, 2017). Baring this in mind, it would be pertinent to further examine the influence a sense of relatedness with coaches, parents, and teammates has on the occurrence of burnout in youth athletes.

Coach-athlete relationships. The need for relatedness with a head coach has been shown to be a predictor of burnout in high school athletes (Perreault et al., 2007). In other words, the environment stemming from the direction of the head coach can serve as a protective factor against the progression of athlete burnout (Raabe, Zakrajsek, & Readdy, 2016). Raedeke, Lunney, and Venables (2002) noted that one strategy for combating the occurrence of burnout in athletes was for coaches to create a supportive program structure. Furthermore, the perception of positive coach support was cited as a source of enjoyment for youth sport involvement (Scanlan, Carpenter, Lobel, & Simons, 1993).

An examination of youth soccer players (including adolescents in the sample) from five European countries conducted by Quested et al. (2013) determined that controlling coaching behaviors thwarted the basic psychological needs of the students and increased levels of burnout related symptoms. Additionally, Rottensteiner and colleagues (2013) proposed that a lack of goals provided by coaches may contribute to youth athlete withdrawal. Pressures from coaches and parents of adolescent athletes can contribute to a sense of ill being (Raedeke, Lunney, & Venables, 2002). In particular, social comparison with siblings and teammates by parents has a negative impact on the child's motivation and has the potential to facilitate the development of burnout (Gould, Udry, Tuffey, & Loehr, 1997; Park & Kim, 2014). Favoritism from coaches has also been said to contribute to feeling as if there is lack of relatedness (Williams et al., 2013). Just as autonomy supportive styles of coaching can encourage youth athletes to continue participating in sport, the opposite is true for controlling coaching styles.

Parent-athlete relationships. Parents also play an important role in the lives of their children and sport involvement is no exception. It has been cited in the literature that parental support in female adolescent athletes increases sport competence, self-esteem, and enjoyment in sport (Atkins, Johnson, Force, & Petrie, 2013). Specifically, if an athlete perceives that their parents provided unconditional emotional support irrespective to performance provides the athlete with a sense of comfort (Park & Kim, 2014; Williams et al., 2013). Conversely, it has been noted that parents may not necessarily play a crucial role in an adolescent athlete's decision to withdraw from sport (Rottensteiner, Laakso, Pihlaja, & Kontinen, 2013). Recently, Sorkkila, Aunola, and Ryba (2017) surveyed the role parental expectations play on the manifestation of burnout related symptoms in Finnish high school student-athletes. Data analysis led the authors

to the conclusion that mothers' expectation of success in sport served as protective factor against the development of sport related burnout.

Teammate-athlete relationships and peer-athlete relationships. Teammates can also negatively impact the experience of a youth athlete (Gould et al., 1997; Williams et al., 2013). For example, Smith, Gustafsson, and Hassmen (2010) determined that intra-team conflict was associated with higher burnout scores and was more prominent in co-active as oppose to team based sports in adolescent athletes. Findings from Rottensteiner and colleagues (2013) echoed similar sentiments. Moreover, the researchers found that female youth athletes were more likely to withdraw from sport due to social reasons such as a deficiency of teamwork or team affiliation. Though not measuring burnout specifically, Donohue, Miller, Crammer, Cross, and Covassin (2007) concluded that happiness of relationships with peers had the least impact on athletic performance in comparison to relationships with parents, coaches, and teammates.

An abundance of literature detailing the impact the relationships with others has on the burnout process in youth athletes; however, there seems to be a paucity in researcher examining the role multiple relationships (parents, coaches, teammates, and peers/classmates) have on youth athlete burnout. Moreover, relatedness in this capacity has not been examined in adolescent athletes. Williams and colleagues (2013) used a qualitative methodology to examine the consequence of parental, teammates, peers/friends outside of sport, and coaches have on the retention of young female golfers. It should be noted that the previously noted study did not measure burnout directly. However, the authors concluded the following about relatedness and retention: support from parents and peers provide a sense of encouragement to persist in competitive play, receiving attention from parents, coaches, and peers were more likely to continue with golf due to positive affirmation, unconditioned praise helped the young female

golfers to feel more attached to others, and the perceptions of peers outside of golf on the sport created feelings of isolation outside of the sport.

Bearing in mind the results of previous studies, it is paramount to examine the role that relationships play in burnout of youth athletes. Horn (2015) acknowledges that during adolescences (ages 13-18) student-athletes have the propensity to use peer comparison (teammates and friends) as a means of determining levels of sport competence, highlighting the importance of peer relationships during this specific developmental stage. Moreover, Dawes et al. (2014) suggested that relationships and socialization contributed to sport participation during adolescents. Socialization with parents, coaches, and teammates during adolescence impact athletes in numerous ways including the following: coaches augment motivation and self-confidence, family members can serve as role models, peers can act as source of reciprocal energy, and parental pressures and modeling of poor behaviors by coaching staff (Fraser-Thomas & Côté, 2009). Thus, accounting for the paucity of research examining the role of relatedness in adolescent athlete burnout and the developmental importance of relatedness in the adolescent population there are two main purposes of the current study. The first purpose is to examine the role the perception of relatedness with parents, coaches, teammates, influences burnout-related symptoms among adolescent athletes. Additionally, the second purpose of this study is to observe the impact of gender and sport type on athlete burnout.

The hypotheses for the current study were: (a) satisfaction of relatedness with coaches and teammates for female athletes will be a greater contributor to burnout subscale scores in comparison to their male counterparts regardless of sport type; and (b) gender and sport type will have an influence on burnout subscale scores. More specifically, female adolescents in coactive

sports are likely to report greater burnout scores than female team sport athletes and male adolescent athletes.

CHAPTER 2

REVIEW OF LITERATURE

Youth Sport

According to the National Council of Youth Sports (2008), an estimated 60 million youth were involved with youth sport; however, there is a discrepancy as to whether youth sport participation is increasing or decreasing overtime. Notably, the Aspen Institute's 2016 State of Play report details a decline in youth sport participation that is more pronounced in athletes ages 13 to 17. The Physical Activity Council reported contrary findings, which suggests that there has actually been an increase in team sport participation (The Physical Activity Council, 2017).

Examining youth sport from more of a public health lens, Merkle (2013) provides an overview of the consequences of youth sport participation—positive and negative. Statistics indicate that a range of 70% to 80% of youth sport participants cease participation by the time they reach the age of 15. There is an ample amount of literature that illustrates the physiological and psychological positive consequences of involvement in sport and physical activity. Among such consequences is no means limited to the following: prevents overeating in youth and diminishes the likelihood of making unhealthy lifestyle choices; serves as a platform for the further development of gross motor skills; augmented academic performance; decreased psychological dysfunction; lessens the likelihood of engaging in risky behaviors such as drug and alcohol abuse; and decreased suicidal ideation. More specific to sport, youth athletes exhibit superior goal setting skills, time management skills, emotional and social competence, leadership and cooperation skills, increased motivation for continued participation in sport, and greater self-esteem (Dawes, Vest, & Simpkins, 2014; Hansen, Larson, & Dworkin, 2003; Taliaferro, Rienzo, Miller, Pigg, & Dodd, 2008).

Additionally, it should be noted that coaches can create an environment that facilitates the development of positive outcomes. Autonomy supportive behaviors, or behaviors that allow an athlete to feel as if they are able to express their true selves instead of responding to external demands (Deci & Ryan, 1987), implemented by coaches have been linked to positive outcomes (Adie, Duda, & Ntoumanis, 2012; Balaguer et al., 2012; Fenton, Duda, Quested, & Barrett, 2014; Quested et al., 2013; Raedeke, Lunney, & Venables, 2002). Mageau and Vallerand (2003) proposed the following eight autonomy supportive coaching behaviors a coach could incorporate: (1) allowing athletes to make some decisions within reason; (2) providing explanatory rationales for sport related activities; (3) acknowledging the feelings and perspectives of the athletes; (4) providing athletes with the opportunity to take initiative; (5) offering student-athletes informational feedback; (6) tapering the use of criticism; (7) creating a thoughtful rewards system; and (8) limiting ego involvement in activities. Coaches play a key role in shaping the welfare and helping young athletes to achieve optimal performance. More specifically, results of a longitudinal study illustrated that athlete perceptions of coach autonomy support increased feelings of positive energy and aliveness over time in youth soccer players (Adie et al., 2012). It should be noted that though autonomy supportive behaviors can aid in the promoting of relatedness, autonomy support is not synonymous with relatedness support. Raedeke, Lunney, and Venables (2002) noted that one strategy for combating the occurrence of burnout in athletes was for coaches to create a supportive program structure. Furthermore, the perception of positive coach support was cited as a source of enjoyment for youth sport involvement (Scanlan, Carpenter, Lobel, & Simons, 1993).

Junior athletes spend a considerable amount of time with teammates, so it is to be expected that teammates influence the sport experience of an individual athlete. Garcia Calvo

and colleagues (2010) concluded that a sense of relatedness was an influential predictor of sport continuance in Spanish adolescent soccer players. Similarly, Joesaar, Hein, and Hagger's (2011) findings detailed how task-involving peer created climate promoted a sense of relatedness among young athletes. Results of a task-involving climate included the following: cooperation among teammates, self-improvement, and sustained effort during practice and play. Prior to Joesaar et al.'s (2011) findings, Ommundsen and colleagues (2005) found that both female and male adolescent soccer players reported a better quality of friendship with teammates when the athletes perceived the peer climate as a mastery (task-involving) climate.

It would be a disservice to neglect to acknowledge the negative consequences that are associated with youth sport participation. Current literature indicates that there are numerous physiological benefits that results from youth sport participation; however, sport related injuries are almost inevitable (Frisch, Croisier, Urhausen, Seil, & Theisen, 2009; Merkel, 2013). It is estimated that at least half of all injuries reported in youth athletes are the result of overuse (Merkle, 2013). Increased hours of training predispose youth athletes to overuse injuries. Factors such as early sport specialization increase the likelihood of overuse injuries occurring (DiFiori et al., 2014). In conjunction with the physiological component of injuries, there is also the potential for athletes to experience psychological ramification such as feelings of isolation.

Pressures from coaches and parents can contribute to a sense of ill being in youth athletes (Raedeke, Lunney, & Venables, 2002). In particular, social comparison with siblings and teammates by parents has a negative impact on the child's motivation and has the potential to facilitate the development of burnout (Gould, Urdy, et al., 1997; Park & Kim, 2014). Favoritism from coaches has also been said to contribute to feeling as if there is lack of relatedness (Williams et al., 2013).

Coakley (1992) proposes that early sport specialization puts young athletes on the track of identity foreclosure, which is one of the few negative consequences associated with early sport specialization. Other associated consequences include but are not limited to the following: increased likelihood of overuse injuries, a greater chance of experiencing overtraining syndrome, and even burnout (Myer et al., 2015).

Parents across the United States enroll their children in athletics for a wide array of reasons. As with anything, there are numerous positive consequences affiliated with youth sport participation. Russell (2014) took a retrospective approach to determine the impact youth sport specialization had on reasons for participation and participation motivation to predict current sport involvement. Athlete who specialized during youth cited that the following factors as motives for participating in youth sport: sport was a means to stay in shape, a modality to learn new skills, and sport contributed to a sense of physical abilities competence.

The current literature examining relatedness has primarily been conducted in older athlete demographics (i.e. collegiate athletes, professional league athletes). In their groundbreaking paper of 1990, Brodtkin and Weiss examined developmental differences in motivation of swimmers across the lifespan. The findings of the researcher aided in delineating the sample for the current study. More specifically, the factorial analysis concluded the need to be noticed by others and popularity with others were important motives for high school/college aged swimmers (15-22 yrs.). The influence of friends and parents were a central motivating factor for older children (10-14 yrs.) swimming participation. Considering the following finding, a high school athletic demographic is well suited to examine how feeling of a sense of relatedness can impact the experience of burnout related symptoms. Additionally, it has now been suggested that high school-aged children (15-17 yrs.) have reported higher amounts of burnout related symptoms

when compared to younger athletes (Harris & Watson, 2014). The listed studies are indicative of a need to further examine burnout within high school-aged athletes.

Youth Sport Burnout

As previously noted, burnout is one of the many consequences of youth sport involvement and has been reported in children as young as ten years of age (Feigley, 1984). Numerous variations of the definition of burnout are found throughout the psychology literature; however, one of the most widely used in the sport psychology was developed by Raedeke (1997). The author defined burnout as the following: a chronic psychological syndrome consisting of emotional and physical exhaustion, reduced sense of accomplishments, and sport devaluation. A review published by Rotella, Hanson, Coop (1991) provided a rough estimate of approximately 35% of youth sport attrition can be attributed to burnout. It should be explicitly stated that not all withdrawal from youth sport can be attributed to burnout; however, burnout is the primary focus of this study.

Due to the nature of athletic burnout, it is difficult to quantify how many youths truly experience burnout over the course of their career. Employing the EABI, Gustafsson et al. (2007), estimated that anywhere from 1% to 9% of adolescent athletes rated themselves as experiencing an elevated level of burnout. Rotella and colleagues (1991) asserted that a trend in treating youth athletes similarly to professional athletes has facilitated an increased likelihood of burnout occurring in younger athletic demographics. Specifically, Harris and Watson (2014) reported higher incidences of burnout within high school aged student-athletes in comparison to younger athletes. Gender differences might contribute to the development of burnout and experienced levels of burnout related symptoms (Gustafsson et al., 2007; Smith, Gustafsson, & Hassmen, 2010). More specifically, Isoard-Gauthier and peers (2015) longitudinal study with

adolescence athletes concluded that of the three subscales of burnout, only reduced sense of accomplishment had significant association with burnout. Middle adolescent females had higher scores than male athletes in the same age group.

Burnout is not instantaneous, rather the development of burnout for sport participants is a gradual process. Recent studies have been focused on detecting probable precursors to the development of burnout in athletes (Cresswell, 2009; Goodger, Wolfenden, & Lavallee, 2007; Moen, Myhre, Klockner, Gausen, & Sandbakk, 2017). More specific to youth athletes, Goodger, Wolfenden, and Lavallee (2007) identified a series of symptoms and consequence of burnout and provided support for Raedeke's (1997) conceptualization of athlete burnout. Symptoms of physical and emotional exhaustion included feelings of isolation and lack of motivation and energy, which is consistent with previous findings (Coakley, 1992; Cresswell & Eklund, 2006; Gould et al., 1997). The symptoms reported for devaluation and reduced sense of accomplishment included the following: withdrawal and avoidance behaviors, a change in priorities, regret, and role restriction. It is important to note, the authors purposed a cyclic system of burnout (feelings of physical and emotional exhaustion contributes to a reduced sense of accomplishment, which results in sport devaluation).

Cresswell (2009) using a sample of professional rugby players identified some potential early signs of burnout and determined that adequate perceptions of social support served as a protective factor to mitigate the development of burnout. Additionally, Moen et al. (2017) concluded that positive affect, negative affect, worry significantly directly impact burnout in high-level junior athletes. Perceived performance and illness and injuries were found to have a significant indirect impact on burnout.

Gould and colleagues published a comprehensive series of both qualitative and quantitative studies detailing the burnout experience for youth tennis players (1996; 1997). Several factors were identified that differentiated burnt out tennis players from athletes with lower EABI scores. Antecedents included the following: less autonomy regarding training schedule, more likely to have participated in high school tennis, greater chance of playing in a higher age division, trained fewer days, displayed higher levels of amotivation, acting more withdrawn, different scores on numerous perfectionism subscales, a decreased likelihood of implementing planning coping skills, and reduced positive interpretations and growth coping.

There is not a standardized burnout experience for athletes. To capture the individual differences Gould et al. (1996; 1997) elected to conduct qualitative analyses. Ten athletes with the highest burnout scores were interviewed from part I of the for part II. Data analysis of the interviewees response provided support for Smith's model (1986) and to a lesser extent, Silva's model (1990). Moreover, the authors introduced the concept of burnout strains for stress based models of burnout: "social psychologically driven" and "physically driven." The "social psychologically driven" strain accounted for perfectionism and situational pressures. Parental pressures were among the most salient situational stressors even going as far as stating a feeling debt of gratitude to parents (Gustafsson, Hassmen, Kentta, & Johansson, 2008). Part III (Gould, Udry et al., 1997) provided a more extensive examination of three participants from part II. One of the participants noted that other things became more important than tennis. It is noteworthy, that results from Gustafsson et al. (2008) corroborated the findings of the earlier studies.

Though the information is sparse, there are some studies that indicate differences in the incidences of youth athlete burnout between sport type and gender (Ahmed, Ho, & Lee, 2015; Gustafsson et al., 2007; Isoard-Gauthier, Guillet-Descas, Gaudreau, & Chanal, 2015).

Gustafsson and colleagues (2007) analysis concluded that male athletes participating in team sports reported higher scores on the Eades Burnout Inventory Measure, while the reverse was observed in female athletes (individual female athletes reported higher burnout scores). These findings may be indicative of relatedness acting as a greater protective factor against burnout for female athletes. Similarly, Isoard-Gautheur et al. (2015) results indicated that female adolescents scored significantly higher on the reduced sense of accomplishment subscale of the Athlete Burnout Questionnaire in comparison to the male participants in the study.

Stress has been recognized to contribute to the development of athlete burnout (Cohn, 1990; Raedeke & Smith, 2004; Smith, 1986). Prolonged stress has the potential to culminate in young athletes experiencing some form of depression. De Francisco et al. (2016) found that athletic burnout could potentially contribute to athletes developing depression. Recently, Gustafsson, Sagar, and Stenling (2017) observed that adolescent athletes who rate themselves to have a greater fear of failure also reported higher ABQ scores than student-athletes who rated themselves as having a lesser fear of failure.

The need for relatedness with a head coach has been shown to be a predictor of burnout in high school athletes (Perreault et al., 2007). In other words, autonomy supportive behaviors stemming from the head coach can serve as a protective factor against the progression of athlete burnout (Raabe, Zakrajsek, & Readdy, 2016). Recently, Sorkkila, Aunola, and Ryba (2017) surveyed the role parental expectations play on the manifestation of burnout related symptoms in Finnish high school student-athletes. Data analysis led the authors to the conclusion that mothers' expectation of success in sport served as protective factor against the development of sport related burnout. Moreover, an examination of youth soccer players from five European countries conducted by Quested et al. (2013) determined that controlling coaching behaviors

thwarted the basic psychological needs of the students and increased levels of burnout related symptoms. Additionally, Rottensteiner and colleagues (2013) proposed that a lack of goals provided by coaches may contribute to youth athlete withdrawal.

Teammates can also negatively impact the experience of a youth athlete (Gould, Udry, Tuffey, & Loehr, 1997; Williams et al., 2013). For example, Smith, Gustafsson, and Hassmen (2010) in a sample of adolescent athletes extrapolated from the data collected that intra-team conflict was associated with higher burnout scores and was more prominent in co-active as oppose to team based sports. Findings from Rottensteiner and company (2013) echoed similar sentiments. Moreover, the researchers found that female youth athletes were more likely to withdraw from sport due to social reasons such as a deficiency of teamwork or team affiliation.

Research indicates that the acceptance of significant others contributes to the burnout process; however, recent studies suggest that an athlete's self-acceptance has the potential to additionally facilitate the development of burnout in athletes (Hill, Hall, Appleton, & Kozub, 2008; Hill, Hall, Appleton, & Murray, 2010; Madigan, Steober, & Passfield, 2015). Moreover, Hill and colleagues using a sample of youth soccer players concluded that unconditional self-acceptance was a partial mediator between perfectionism and burnout.

The concept of unconditional self-acceptance closely relates to the concept of perfectionism, which has been popular among athlete burnout research over the recent years (Appleton, Hill, & Hall, 2009; Hill, 2013; Jowett, Hill, Hall, & Curran, 2016; Ommundsen, Roberts, Lemyre, & Miller, 2005). In line with the aim of the current study, Jowett and coworkers (2016) using the tenets of the Basic Psychological Needs theory to determine if the three basic psychological needs mediate the relationship between perfectionism, engagement,

and burnout. The authors determined basic psychological needs satisfaction served as mediated affect between perfectionism and burnout in youth athletes.

Hill (2013) contributed to the perfectionism and burnout literature by providing support for the use of a 2X2 model of perfectionism to examine athlete burnout. The 2X2 model of perfectionism consists of the following: nonperfectionism (feeling no social pressures or no personal perfectionist standards), pure personal standards perfectionism (uniquely oriented to personal setting and pursuing perfectionist standards), pure evaluation concerns (chase perfectionist strivings based off of societal pressures), and mixed perfectionism (individuals who work towards perfectionist standards based off social pressures and work towards personal standards of perfectionism).

Burnout Models

Burnout researcher in the sports realm has been emerging since the 1980s, which has led to the emergence of several theories to aid in the conceptualization of athlete burnout. Several of the models that were developed early in athlete burnout research were stress based models. For example, in 1986, Smith published the foundations of the Cognitive-Affect Model of Athletic Model. Consistent with his proposed model, Smith defined burnout as result of chronic stress and that exposure to chronic stress result related to a once enjoyable sporting activity results negates enjoyment of said sport. This model consists of four stages that an athlete experiencing burnout would progress through in a linear fashion and acknowledges the physiological, psychological, and behavioral factors that are impacted by motivation and personality.

Stage one accounts for the situational demand placed on an athlete. It could include things like the amount of training time required of the athlete or external pressures from parents and coaches. An individual would then progress to the second stage, which is dubbed cognitive

appraisal. Athletes evaluate and appraise their situation during this stage. Next, the athlete progresses to the third stage—physiological responses. Such physiological changes that can occur due to excessive stress includes but is not limited to the following: increased tension, irritability, fatigue, greater susceptibility to sickness, and lethargy. The previously mentioned stages culminate in the final stage, behavioral responses. The behavioral responses of an athlete are facilitated by the physiological response that determines coping methods utilized that is moderated by personality and motivation, which could ultimately result in withdrawal from sport.

Raedeke and Smith (2004) provided support for the applications of stress based models within sport psychology. More specifically, the authors drew the conclusions that perceived stress in young athletes was related to reported burnout related symptoms. Though one of the older models of athlete burnout, it was not until recently that Isoard-Gauthier, Guillet-Descas, and Gustafsson (2016) provided evidence for the use of the cognitive-affect model when examining athlete burnout. Additionally, Moen and colleagues (2017) concluded that Smith's model account for over half of the variance observed within a sample of Norwegian youth elite athletes.

Similarly, Silva (1990) contented that stress could either have a positive or negative effect on athletes, though a greater emphasis is placed on physiological training. In accordance with the Negative Stress Training Model, an athlete with a positive adaptation to overtraining is improvement within their chosen sport. A negative adaptation to overtraining could result in staleness. Experiencing staleness can eventually lead to the development of burnout if the athlete does not receive adequate recovery time from training. Moreover, physical training load can act as both a physical and emotional stressor. Research has indicated that the training an athlete

engages in for sport contributes to the burnout process, though this model fails to consider the intensity of training, psychological and social stressors, and recovery factors (Raedeke & Smith, 2004). Gould and colleagues (1996, 1997) were among the first to empirically test Silva's stress based model of athlete burnout. Though it was noted by the authors that physically driven burnout development was cited less frequently than other sources of burnout development (Gould et al., 1997).

Deviating from the stress based models, Coakley (1992), proposed relying on a more sociological approach to understanding the burnout process. In accordance with this model, burnout is defined as:

...a social phenomenon grounded in a set of social relations through which young athletes become disempowered to the point of realizing that sport participation has become a developmental dead-end for them and that they no longer have any meaningful control over the important parts of their lives (p. 273).

Interviews with athletes that were identified as burnout cases allowed the author to conclude that the following factors contribute to the occurrence of burnout in young athletes: (1) undesired participation in a sport impedes the development of other identities (identity foreclosure) and; (2) lack of control in the decisions made in their own lives. Accomplished athletes who participated in only one (early sport specialization) are most likely to fit in to this archetype. Participation in a single sport early in life fosters an environment that makes it difficult for an athlete to develop identities outside of sport. As it pertains to the current study, Coakley noted that there was a scarcity of burnout reported in athletes in team sport and offered a couple of explanations for his observation. First, the presence of teammates allows an athlete the opportunity to develop identities that are not directly related to sport. Secondly, teammates

have the potential to serve as a buffer between controlling parents or coaches providing an athlete with a sense of autonomy and independence.

Black and Smith (2007) applied Coakley's theory (1992) using a sample of young swimmers. Data analyses by the authors indicated that there is partial support for the use of Coakley's model when examining athlete burnout. Moreover, Harris and Watson (2014) found support for the use of Coakley's model to gain further insight into the athlete burnout phenomenon observed in youth athletes.

The self-determination theory (SDT) is a motivation theory that has been commonly used to understand the development of burnout within the athlete population. Deci and Ryan (1985; 2000) postulate that individuals pursue goals in order to satisfy their basic psychological needs, which can be used to determine the motivation of a specific person. The SDT is comprised of five mini theories. Many studies of athlete burnout implement the motivational component of SDT as the theoretical framework to gain insight into the phenomenon.

The basic psychological needs theory (BPNS) has also been emerging in the literature examining athlete burnout. The basic needs determined by the authors include the following: the need for autonomy (sense of control), a feeling of competence, and feeling a sense of relatedness. Specifically, Li and colleagues (2013) conducted a meta-analysis of literature as it pertains to the BPNS and to provide insight about the applicability of this model as a framework to further the understanding of athlete burnout. Analyses of the data indicated that the three basic psychological needs were a negative influence on global burnout (competence ($\beta = -.34, p < .01$), autonomy ($\beta = -.28, p < .01$), and relatedness ($\beta = -.18, p < .01$)). Li et al. (2013) concluded that relatedness was the weakest predictor of global athlete burnout.

The BPNS will serve as the theoretical frameworks for the current study in order to further the understanding of how basic needs satisfaction can influence the development of burnout related symptoms in adolescent student-athletes. More specifically, the relatedness component of the mini-theory will be examined. According to Markland and colleagues (2005) the following definition of relatedness can be implemented: the extent to which individuals perceive that significant others are genuinely invested in them and their well-being. Harris and Watson (2011; 2014) examined burnout in youth swimmers utilizing both theories and found preliminary support for the implantation of both of the respective models with the specified population.

According to Moen et al. (2015), BPNS is an important mini theory to aid with the understanding of the burnout process. Numerous studies using the BPNS to examine burnout have either focused on all three of the psychological needs, or placed a strong emphasis on autonomy (Hodge, Lonsdale, & Ng, 2008; Moen, Federici, & Abrahamsen, 2015; Perreault, Gaudreau, Lapointe, & Lacroix, 2007; Quedsted et al., 2013). It has now been demonstrated that relatedness support had an influence on the retention of young female golfers within the sport (Williams, Whipp, Jackson, Dimmock, 2013). The authors of the aforementioned study determined, via a qualitative analysis, that female golfers who continued to participate in the sport felt that their parents provided them with unconditional emotional support regardless of competition performance when compared to those who lapsed participation with golf. A positive student coach relationship was also found to aid in retention. It is of interest to note that both active and inactive young female golfers found little support from peers outside of golf.

Similar to Coakley's model (1992), the commitment view acknowledges the motives for athletes' engagement in sport. Schmidt and Stein (1991) drew upon the social exchange theory

when developing the entrapment theory. The authors contended that Smith's cognitive affect model (1986) was insufficient in distinguishing between athletes withdrawing from sport and athletes who withdrew from sport as a consequence of burnout. Furthermore, the authors proposed that athletes remained involved in sport for one of two reasons: they want to because of enjoyment, or there is a sense of obligation to remain involved in the sport. Athletes who remained involved in sport without a sense of enjoyment have a greater likelihood of burning out, in other words, the athlete is no longer attracted to the sport. A means of identifying an athlete experiencing burnout from an athlete who simply withdrew from sport is the absence of alternatives from sport. Additionally, the level of investment an athlete has in sport might influence the timeline of a burnt-out athlete actually discontinuing in the sport. Athletes who are burnt out might continue in their sport until they feel that their investment is rewarded even if they no longer enjoy participating in their sport.

Complementing the previously cited model, Raedeke (1997), proposed the sport commitment model. Raedeke draws from the entrapment component of Coakley's (1992) sociological model of burnout to develop profiles for athletes who are likely and unlikely to develop burnout throughout their career. Additionally, the author proposed the following more specialized definition athlete burnout: a chronic psychological syndrome consisting of emotional and physical exhaustion, reduced sense of accomplishments, and sport devaluation (Raedeke, 1997).

Raedeke defined emotional and physical exhaustion as being the result of "the psychological and physiological demands associated with training and competing" (p. 397). Sport devaluation is characterized by an athlete developing towards feelings the sport in general and their involvement in said sport. Finally, reduced sense of accomplishment is observed when

an individual has a lesser sense of accomplishment in regards to their sport abilities and achievements within that particular sport. The author contended that athletes participate in sport for one of two reasons—sport attraction (participation in the sport is desired), or sport entrapment (have to participate in sport). Considering the proposed definition of athlete burnout, results of this study indicated that athletes that displayed characteristics associated with sport entrapment tended to have higher burnout scores when compared to those involved for sport attraction reasons. Moreover, Raedeke notes that Schmidt and Stein (1991) fail to acknowledge that athletes may hold the perception of there being certain social constraints stemming from parents, coaches, and teammates who expect the individual to continue participating in their respective sport. Through a series of interviews, Goodger and colleagues (2007) provided support for the application of Raedeke's commitment model.

One of the more recent models of athlete burnout to be developed is the integrated model of athlete burnout (Gustafsson, Kentta, & Hassmen, 2011). The authors developed this model to provide a more comprehensive understanding of the athlete burnout phenomenon. Application of this model consists of considering numerous variables that can facilitate the development of burnout. One of which is antecedents, such as school demands, stressful social relations, and lack of recovery time.

The antecedents then transition into early signs (ex.: mood disturbances, lack of control, and performance decrement) that eventually can result in burnout and the maladaptive consequences associated with the syndrome including: withdrawal (complete or partial), compromised immune function, chronic inflammation, and long-term performance impairment. Entrapment is also viewed as a contributor to development of burnout when implementing the use of this model. Additionally, the integrated model acknowledges that other factors such as the

personality of the athlete (ex.: trait anxiety, perfectionism), the athlete's environment (ex.: motivational climate, lack of social support and autonomy), and available coping mechanism (or lack thereof) impact the athlete burnout experience. Due to its age, this model has not been as heavily used in the burnout literature as some of the longer established models. Isoard-Gauthier, Guillet-Descas, and Gustafsson (2016) using adolescent elite handball players found initial support for the use of this model to further research in field of athlete burnout in addition to the use of Smith's cognitive affect model (1986).

Burnout Inventories

Just as research in athlete burnout derived from other psychology disciplines, other psychology burnout measures served as the foundation for the development of athlete specific burnout measures. Maslach and Jackson (1981) provided support for the validity and reliability ($\alpha = 0.83$ (frequency), $\alpha = .84$ (intensity)) for the Maslach Burnout Inventory (MBI). The MBI consists of three subscales that were determined to be common indicators of burnout based off the author's previous findings: emotional exhaustion, depersonalization, and personal accomplishment (Maslach & Jackson, 1981). Notably, human service workers such as law enforcement officials, teachers, psychologists, social workers, physicians, and individuals holding similar occupations were used for the development of the MBI. Though widely used in the initially emerging burnout research, the sample selected by the researchers rendered this measure invalid within the athletic population (Raedeke, 1997; Raedeke & Smith, 2001). Despite the lack of applicability to the athletic population, Smith (1981) noted that the MBI could be used to provide the framework necessary for the development of burnout measures specific to athletes, such as the Eades Athletic Burnout Inventory (EABI; Eades, 1990) and the Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001). Similarly, in their review article, Rotella

and co-workers (1991) encouraged future research to implement the MBI to provide insight into athletic burnout.

The Eades Burnout Inventory was developed by Eades as a segment of her thesis (Raedeke & Smith, 2001; Akhrem & Gazdowska, 2016). The EABI consists of 36-items and six subscales including the following: negative self-concept of athletic ability, physical and emotional exhaustion, psychological withdrawal from sport and devaluation of sport participation, devaluation by coach and teammates, congruent athlete-coach expectations, and personal and athletic accomplishments. Though a sport specific measurement, the EABI has received criticism about the validity and reliability of the inventory (Gould, Urdy, Tuffey, & Loehr, 1996; Gustafsson, Kentta, Hassmen, & Lundqvist, 2007; Raedeke & Smith, 2001). Specifically, Gustafsson and colleagues (2007) tested the validity of the Eades Burnout Inventory within a high school athletic demographic. The authors calculations indicated that four out of the six subscales had acceptable internal consistency. Excluding two of the original subscales a lack of factorial invariance between gender indicates that are still psychometrical issues with this inventory.

The most widely employed burnout measure in the athletic population is the Athlete Burnout Questionnaire (ABQ). The ABQ was developed and tested for validity and reliability by Raedeke and Smith (2001) using the both the MBI and EABI as the foundational framework. The Athlete Burnout Questionnaire uses a 5-point Likert scale and is comprised of 15-items measuring three subscales of burnout—reduced sense of accomplishment, physical and emotional exhaustion, and sport devaluation. Test-retest calculations indicated that the subscales, emotional/physical exhaustion ($r = .92$), reduced sense of accomplishment ($r = .86$), and sport devaluation ($r = .92$), had good reliability to measure athlete burnout. Due to the widespread use

of the ABQ, the validity of this inventory has been tested for translations and within different populations. Specifically, Harris and Watson (2011) provided initial psychometric support for the implementation of an adapted version of the ABQ within a youth athlete population.

Though one of the most widely implemented burnout measures in the sport psychology literature, it should be noted that there are some flaws with the ABQ. Gustafsson and colleagues (2016) made note of the fact that the ABQ does not actually diagnose burnout. Additionally, the authors recommend the possible employment clinically validated burnout measures with athlete populations.

CHAPTER 3

METHODS

Participants

The sample consisted of 105 adolescent student-athletes ranging from 14 to 17 years of age ($m_{age} = 15.71$, $SD = 1.05$). In order to be eligible to participate in the current study, the student-athlete were required to be between the ages of 13 and 17, and actively participating in an organized or competitive sport. Twelve participants were excluded from the final analysis due to the fact that these participants were over the age limit for the study. Both male ($n = 43$) and female ($n = 62$) athletes that were currently participating in organized or competitive sport were included in the sample for this study. The majority of participants identified as not Hispanic ($n = 102$) and two participants identified as Hispanic and the final participant elected not to answer. Additionally, over half of the participants identified as White/Caucasian ($n = 90$, 85.7%). The remaining of the participants identified as African American/Black ($n = 12$, 11.4%), Asian/Pacific Islander ($n = 1$, 1%) and multiethnic ($n = 2$, 1.9%). Participants were recruited from both public ($n = 39$) and private ($n = 66$) high schools in southeast Georgia. The participants reported the following class standings: freshman ($n = 33$, 31.4%), sophomore ($n = 27$, 25.7%), junior ($n = 33$, 31.4%), and senior ($n = 12$, 11.4%). Further, participants were classified based on sport type. Sixty-eight (64.8%) participants were involved with team sport ($n_{cheer} = 8$, $n_{basketball} = 6$, $n_{baseball} = 22$, $n_{soccer} = 32$), while the remaining 37 (35.2%) participants were members of coactive teams ($n_{rifle} = 8$, $n_{track} = 18$, $n_{tennis} = 4$, $n_{golf} = 7$).

Instrumentation

Demographic questionnaire. A demographic questionnaire will be utilized to assess participants' age, gender identity, number of siblings, year in school, sport type, years of involvement with sport, number of sports played, race, and ethnicity (see Appendix A).

Athlete burnout. The Athlete Burnout Questionnaire (see Appendix B) was developed and tested for validity and reliability by Raedeke and Smith (2001) using the both the MBI and EABI as the foundational framework. The Athlete Burnout Questionnaire uses a 5-point Likert-type scale ranging from 1 (almost never) and 5 (almost always) and is comprised of 15-items measuring three subscales of burnout—reduced sense of accomplishment (RA), physical and emotional exhaustion (E), and sport devaluation (D). Examples items included “*I am accomplishing many worthwhile things in [sport],*” “*It seems no matter what I do, I don’t perform as well as I should,*” and “*I feel physically worn out from [sport].*”

Test-retest reliability coefficients indicated that the subscales of emotional/physical exhaustion ($r = .92$), reduced sense of accomplishment ($r = .86$), and sport devaluation ($r = .92$), had good reliability to measure athlete burnout. Due to the widespread use of the ABQ, the validity of this inventory has been tested for translations and within different populations. Moreover, Harris and Watson (2011) provided support for the use of the ABQ in high school athletes as young as 13 years of age. Additionally, the reliabilities for each subscale were calculated for this study and were determined to be acceptable ($\alpha_{RA} = .79$, $\alpha_E = .83$, $\alpha_D = .86$). The means for each of the three burnout subscale scores were calculated to be used for the data analysis of the current study.

Relatedness. Currently, there is no valid sport relatedness scale that specifically examines the impact various stakeholders (coaches, parents, teammates, and peers) have on youth athletes. The need for relatedness scale (NRS-10) was developed and validated by Richer and Vallerand (1998) and it should be noted that this scale was originally constructed for a workplace setting. The NRS-10 is uses a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree), and is comprised of two subscales including acceptance and

intimacy. Examples of the items included in the scale are “*In my relationships with my teammates, I feel close to them*” and “*In my relationships with my teammates, I feel close-knit.*”

Specific to sport, Adie and colleagues (2008; 2012) employed the use of NRS-10 to examine relatedness satisfaction in a youth athlete sample and a sample of adult sport participants. The authors (Adie, Duda, & Ntoumanis, 2008; 2012) adapted the NRS-10 to 5-point Likert-type scale and elected to use only the acceptance subscale (see Appendix C). Furthermore, the researchers were able to provide support for the internal consistency and the predictive validity of the acceptance subscale within the athlete population. Additionally, the reliabilities for each of the relationships was calculated for this study and were determined to be acceptable ($\alpha_{Teammate} = .90$, $\alpha_{Parent} = .83$, $\alpha_{Coach} = .88$). It should be noted that a single item had to be deleted from the inventory measuring teammate relatedness in order to reach an acceptable reliability. The means for each of the three relationships were calculated to be used in the data analysis for the current study.

Procedures

After obtaining IRB approval and sending letters of cooperation to both the principal and the athletic director of the selected schools, the recruitment process began. Due to the age of the selected sample, both a parental consent and child assent form were distributed prior to the commencement of data collection. Once the consent forms were returned, the inventories were distributed to the participants and returned to the researcher when completed. To account for the possibility of survey fatigue, the inventories were counterbalanced.

Data Analysis

Frequencies for the demographic information was calculated. Data was also checked for outliers, skewness, and kurtosis to ensure that the data are normally distributed.

Due to the nature of the research questions, multiple statistical analyses were used. Two multiple regressions were used to determine how each of the respective relationships predict the burnout scores of adolescent athletes based on the gender of the student-athletes. The multiple regression used relatedness with others such as parent, coaches, and teammates to predict reported burnout subscale scores. Predictor variables included the type of relationship and gender. Additionally, the outcome variables will be the three ABQ subscale scores. The rejection rule was set at $\alpha = .05$ for this analysis.

The second hypothesis was tested using a multivariate analysis of variance (MANOVA). The MANOVA was used to determine if a significant interaction between sport type and gender exists when examining burnout subscale scores in adolescent athletes. In this instance, the independent variables included gender and sport type and the outcome variables included the three burnout subscale scores of the ABQ. The rejection rule was set at $\alpha = .05$ for this analysis.

CHAPTER 4

RESULTS

Descriptive Statistics

The distribution of the data were checked for skewness and kurtosis to ensure the normality of the sample and it was determined that all of the variables were within ± 1.96 of the standard deviation. Of the three burnout subscale scores (see Table 1), participants reported the highest mean score ($m = 2.36$) for physical and emotional exhaustion. Participants had the lowest mean score ($m = 2.05$) for the sport devaluation subscale and second lowest mean score ($m = 2.21$) for reduced sense of accomplishment. Additionally, mean scores for teammate relatedness ($m = 3.96$), coach relatedness ($m = 4.13$), and parent relatedness ($m = 4.60$) were calculated.

Gender, Relatedness, and Burnout

Stepwise multiple regressions were used in to determine if gender, relatedness with teammates ($m = 3.93$), relatedness with coaches ($m = 4.14$), and relatedness with parents ($m = 4.59$) significantly predicted any of the three burnout subscale scores. Prior to running the regressions, correlations were calculated (see Table 2) to check for multicollinearity. Regressions were calculated only if significant correlations were found between variables. Additional tests indicated that there were no multicollinearity violations in the data set (reduced sense of accomplishment: tolerance = 1, $VIF = 1$; sport devaluation: tolerance = .63, $VIF = 1.59$).

Results of the regression analysis for reduced accomplishment indicated significant negative correlations between relatedness with teammates, coaches, parents and reduced sense of accomplishment. Multiple regression revealed teammate relatedness ($\beta = -.47, p < .001$)

predicted reduced sense of accomplishment subscale scores, ($F(1) = 28.86, p < .001$), accounting for 22.2% of the variance.

Results of the analysis indicated significant negative correlations between relatedness with teammates, relatedness with coaches and sport devaluation. Multiple regression revealed that teammate relatedness ($\beta = -.25, p = .02$) and coach relatedness ($\beta = -.25, p = .02$) was also predicted sport devaluation scores, ($F(2) = 14.11, p < .001$), accounting for 20.4% of the variance.

No significant correlations emerged between teammate relatedness, coach relatedness, parent relatedness, gender, and physical and emotional exhaustion. Thus, a stepwise regression was not calculated for this subscale.

Gender and Sport Type

In order to determine if significant interactions existed among gender, sport type, and the three burnout subscale scores, a multivariate analysis of variance was used. Results indicated no significant interaction between sport type and gender when examining the three burnout subscale scores ($Wilks' \lambda = .93, F(3,102) = 2.39, p = .07$). Additionally, results from the MANOVA indicated no significant main effects for sport type when examining the ABQ burnout scores ($Wilks' \lambda = .99, F(3,102) = .39, p = .76$), and no significant main effects for gender when examining burnout scores ($Wilks' \lambda = .95, F(3, 102) = 1.65, p = .18$)

CHAPTER 5

DISCUSSION

The purpose of the present study was to examine the influence of relatedness with significant others on athlete burnout scores in adolescent athletes. Additionally, the impact gender and sport type had on burnout in adolescent student-athletes was examined.

The first hypothesis of the present study regarding gender and the impact of relatedness on burnout subscale scores was partially supported. While gender was not significantly correlated with any of the three burnout subscale scores, relationships with teammates and coaches were significant when examining two of the burnout subscale scores (reduced sense of accomplishment and sport devaluation). It appears that a sense of relatedness can have an impact on symptoms related to sport devaluation and reduced sense of accomplishment, as relatedness with both coaches and teammates emerged as significant when examining these specific burnout subscales.

Data suggested that relatedness with teammates emerged as a significant when examining two of the dimensions of burnout (reduced sense of accomplishment and sport devaluation). Pacewicz and Smith (2017) reported similar findings and determined that social behaviors in the form of perceived support availability and received support from teammates predicted perceptions of reduced sense of accomplishment and sport devaluation in adolescent athletes. Additionally, Perreault and colleagues (2007) reported that basic psychological needs satisfaction, including the need for relatedness, significantly predicted reduced sense of accomplishment subscale scores. Moreover, Coakley (1992) suggested that teammates can act as a buffer against the development of athlete burnout by providing a sense of autonomy and independence. Results from the current study underscored the need to examine relatedness with

teammates and how this can potentially mitigate the development of symptoms associated with sport devaluation (accounting for 20.4% of the variance) and reduced sense of accomplishment (accounting for 22.2% of the variance).

In applying the findings from the present study, it appears important to promote relatedness among adolescent athletes in order to help decrease the experience of symptoms associated with reduced sense of accomplishment and sport devaluation. Numerous avenues can be taken to facilitate the development of relatedness among teammates. Raabe, Zakrajsek, and Readdy (2016) outlined several factors that were helpful to support the need for relatedness in collegiate swimmers. Such factors included feeling accepted by teammates, the use of formal and informal roles that match strengths and personalities, spending time together outside of practice, and developing trust among teammates. Several interventions can be implemented to build trust between members of a team. Similarly, Vazou, Ntoumanis, and Duda (2005) determined that promoting honesty among teammates, avoiding social comparison among one another, and providing moral support can help to promote teammate relatedness, which could also potentially reduce symptoms associated with sport devaluation and reduced sense of accomplishment in youth athletes when considering the results of the present study as well.

Team cohesion has also been shown to satisfy the need for relatedness (Blanchard et al., 2009). For example, setting team goals derived from the athletes has been shown to be a means to help establish team cohesion (Prapavessis, Carron, & Spink, 1996; Weinberg, 2010). Other interventions such as the establishment of a mentoring system between veteran players and newer team members, interacting outside of sport (i.e. team dinners), and teammates providing one another with constructive feedback (Paradis & Martin, 2012; Prapavessis et al., 1996) can be implemented to help foster the development of team cohesion. Additional research on building a

sense of relatedness between teammate with youth athletes is needed as much of the current literature highlights strategies coaches can use to promote relatedness among teammates.

Relatedness with coaches emerged as a significant when examining the occurrence of adolescent burnout (reduced sense of accomplishment) in the current study, which indicates that coaches can influence the development of burnout in student-athletes, particularly as it pertains to sport devaluation. It should be noted that Perreault and colleagues (2007) concluded that the need for relatedness with a head coach was significant predictor of all three burnout subscale scores among a sample of high school student-athletes. It appears that coaches can either aid in the prevention of the development of burnout, or help to attenuate the occurrence of youth athlete burnout. In a recent study, Gonzalez and colleagues (2017) determined that coaches thwarting the need for relatedness positively predicted burnout in male youth soccer players. Coaches can also promote a sense of relatedness with athletes by conveying a sense of faith in an athlete, providing security, and facilitating strong and effective communication (Froyen & Pensgaard, 2014). Strategies such as fostering a mastery climate (promoting focus on the controllable and reducing social comparison), encouraging athletes to establish their own identities, and allowing athletes to create their own rules (Kipp & Weiss, 2013; Raabe & Zakrajsek, 2017; Smith, Smoll, & Cummings, 2007; Vazou, Ntoumanis, & Duda, 2006).

Coaches are in the unique position in that they can also play a role in facilitating the development of relatedness among teammates. For example, creating an environment where each athlete is aware of the individual goal of their teammates can help to enhance perceptions of relatedness among teammates (Raabe et al., 2016). Providing athletes with the opportunity for peer coaching can also help to promote a sense of relatedness among student-athletes. Additionally, coaches can create extra opportunities for teammate interactions during practice

such as partner conditioning (Kipp & Weiss, 2013). With these proactive approaches from youth sport coaches, it is possible that one of the positive outcomes may aid in minimizing sport devaluation and a reduced sense of accomplishment.

In contrast to the second hypothesis of this study, there were no significant interactions with gender when examining relatedness and the burnout subscale scores. Notably, the literature examining gender differences in adolescent athletes have found that gender has an impact on burnout scores. For example, Isoard-Gauthier et al. (2015) in sample of handball players determined that female adolescent athletes reported higher burnout subscale scores (reduced sense of accomplishment and sport devaluation) than male adolescent. The MANOVA in the present study also revealed no significant differences in burnout subscale scores when examining gender and sport type. Thus, the second hypothesis of the current study was not supported.

Moreover, Gustafsson and colleagues (2007) observed gender differences based on sport type. The researchers concluded that female athletes involved in coactive sports reported higher burnout scores than female adolescent athletes participating in interactive team sports. In regards to male adolescent athletes, the authors found that males participating in team sports reported higher burnout scores than males involved in coactive sports. Both of the previous studies had substantially larger sample sizes with the more male participants, which may contribute to the differences in findings when looking at the results of this study. Conversely, over half of the sample of the current study were female, which could have influenced the observed results.

Limitations

One of the limitations of the current study is the uneven distribution among gender and sport type within the current sample. It has been suggested that the importance of relatedness with significant others can differ based off of sport type. In particular, Raabe and Zakrajsek

(2017) concluded that the fulfillment of the need for relatedness had a significantly more positive impact on coactive sport athletes as opposed to team sport athletes. There is a distinct possibility that if the sample of the present study had a greater number of coactive participants that relatedness with coaches would have emerged as a significant predictor for more than one of the burnout subscales. The majority of the participants in the study identified as female. Past studies have indicated that there are observable gender differences when measuring burnout in adolescent athletes. Gender differences in burnout subscale scores may have emerged had there been a larger male sample, which could have aided in the development of gender-specific relatedness support interventions.

Another limitation of the current study is the fact that there is currently no sport-specific measure for relatedness that examines the individual relationships with significant others. The basic needs satisfaction in sport scale is a validated measure for relatedness in sport; however, the subscale does not specify the type of relationship (Ng, Lonsdale, & Hodge, 2011). The use of a sport specific relatedness measure that examines individual relationships can further the understanding how relatedness satisfaction of certain relationships can impact athletic performance. A sport specific relatedness measure can also help with the development of more effective interventions to help promote relatedness among athletes and significant others and provide athletes with an appropriate environment.

Additionally, the homogeneity of the sample can also be viewed as a limitation. In order to establish generalizability, a diverse sample is recommended (Ferguson, 2004). The nature of the present sample creates a question as to whether or not the findings can be applied to the general population of adolescent student-athletes in the United States. A larger and more diverse sample could provide more insight into the role relatedness plays in youth athlete burnout and

increase the generalizability of the findings from the study. The goal being to gain further insight into how relatedness support can help mitigate the occurrence of burnout in adolescent athletes.

An additional limitation to the current study includes the fact that participants were recruited from both public and private schools. Accordingly, there were demographic differences between the sample from each school type. More specifically, most of the participants from private schools identified racially as White, which has been shown to be consistent in other regions in the United States (Ferreira & Kosenok, 2018). There was more cultural diversity observed in the public-school participants, which could possibly influence the perceptions of relatedness with significant others (Kagitcibasi, 2005). Faircloth and Hamm (2005) observed that relationships with teachers and peers was significant for feeling connected to teacher and peers for White and Hispanic/Latino(a) high school students. Participants that identified as Black/African American and Asian American in the study reported that relationships with teachers was significant. These results highlight the ethnic differences and the need for specific relationships in high school students.

Moreover, when examining the health of adolescent students, McNeely, Nonnemaker, and Blum (2002) concluded that the need to belong and feel cared for at school (feeling a sense of connectedness) was relatively high in racially/ethnically segregated school due to students befriending individuals of the same ethnicity. The authors also found that students in smaller schools tended to feel a greater sense of connectedness. Additionally, Diener, Oishi, and Lucas (2003) noted that subjective well-being is potentially influenced by meeting of the basic psychological needs and it is conceivable that cultural differences can impact how an individual determined their subjective well-being. Based off of these findings, it is possible that a more diverse sample would have resulted in different outcomes when examining the role of

relatedness of significant others on the development of burnout related symptoms in adolescent athletes.

Furthermore, it is important to note that the sample consisted of student-athletes from both winter and spring sports. Data collection for the winter sports was done at the end of the competitive season, while data collection for the spring sports was done at the beginning of the competitive season. Research has shown that burnout related symptoms vary based on the point in the season for an athlete, so it possible that the time in the season influenced the ABQ scores of the current sample (Dale & Weinberg, 1990; Gustafsson, Hassmen, Kentta, & Johansson, 2008).

Conclusions and Future Directions

The current study has provided additional insight as to how relatedness with significant others may impact burnout in adolescent student-athletes. Relatedness with coaches and teammates significantly predicted two of the burnout subscale scores (reduced sense of accomplishment and sport devaluation), which highlights the importance of the need for building strong coach-athlete relationships and relationships among teammates. Further research with a larger, more diverse is warranted to determine if a relationship exists among sport type and the dimensions of burnout in adolescent athletes in the United States. Additionally, future research is needed to develop a sport-specific measure for relatedness to continue to gain insight into how relatedness can influence athlete burnout.

REFERENCES

- Adie, J. W., Duda, J. L., & Ntoumanis, N. (2008). Autonomy support, basic need satisfaction and the optimal functioning of adult male and female sport participants: A test of basic needs theory. *Motivation and Emotion, 32*(3), 189-199.
- Adie, J. W., Duda, J. L., & Ntoumanis, N. (2012). Perceived coach-autonomy support, basic need satisfaction and the well-and ill-being of elite youth soccer players: A longitudinal investigation. *Psychology of Sport and Exercise, 13*(1), 51-59.
- Ahmed, D., Ho, W. K. Y., & Lee, K. C. (2015). Ballgames and burnout. *Journal of Physical Education and Sport, 15*(3), 378-383.
- Akhrem, A., & Gazdowska, Z. (2016). Analysis of the athlete burnout phenomenon: The past, the present and the future of athlete burnout research. *Baltic Journal of Health & Physical Activity, 8*(3), 60-70.
- Appleton, P. R., Hall, H. K., & Hill, A. P. (2009). Relations between multidimensional perfectionism and burnout in junior-elite male athletes. *Psychology of Sport and Exercise, 10*(4), 457-465.
- The Aspen Institute. (2017, June 29). State of Play 2016: Trends and Developments. Retrieved from <https://www.aspeninstitute.org/publications/state-play-2016-trends-developments/>
- Atkins, M. R., Johnson, D. M., Force, E. C., & Petrie, T. A. (2013). "Do I still want to play?" Parents' and peers' influences on girls' continuation in sport. *Journal of Sport Behavior, 36*(4), 329-345.
- Balaguer, I., González, L., Fabra, P., Castillo, I., Mercé, J., & Duda, J. L. (2012). Coaches' interpersonal style, basic psychological needs and the well-and ill-being of young soccer players: A longitudinal analysis. *Journal of Sports Sciences, 30*(15), 1619-1629.

- Balish, S. M., McLaren, C., Rainham, D., & Blanchard, C. (2014). Correlates of youth sport attrition: A review and future directions. *Psychology of Sport and Exercise, 15*(4), 429-439.
- Black, J. M., & Smith, A. L. (2007). An examination of Coakley's perspective on identity. *International Journal of Sport Psychology, 38*, 417-436.
- Bloom, G. A., Loughhead, T. M., & Newin, J. (2008). Team building for youth sport. *Journal of Physical Education, Recreation & Dance, 79*(9), 44-47.
- Brodkin, P., & Weiss, M. R. (1990). Developmental differences in motivation for participating in competitive swimming. *Journal of Sport and Exercise Psychology, 12*(3), 248-263.
- Butcher, J., Lindner, K. J., & Johns, D. P. (2002). Withdrawal from competitive youth sport: A retrospective ten-year study. *Journal of Sport Behavior, 25*(2), 145-163.
- Calvo, T. G., Cervelló, E., Jiménez, R., Iglesias, D., & Murcia, J. A. M. (2010). Using self-determination theory to explain sport persistence and dropout in adolescent athletes. *The Spanish Journal of Psychology, 13*(2), 677-684.
- Cervelló, E. M., Escartí, A., & Guzmán, J. F. (2007). Youth sport dropout from the achievement goal theory. *Psicothema, 19*(1), 65-71.
- Coakley, J. (1992). Burnout among adolescent athletes: A personal failure or social problem? *Sociology of Sport Journal, 9*(3), 271-285.
- Cohn, P. J. (1990). An exploratory study on sources of stress and athlete burnout in youth golf. *The Sport Psychologist, 4*(2), 95-106.
- Cresswell, S. L. (2009). Possible early signs of athlete burnout: A prospective study. *Journal of Science and Medicine in Sport, 12*(3), 393-398.

- Cresswell, S. L., & Eklund, R. C. (2006). The nature of player burnout in rugby: Key characteristics and attributions. *Journal of Applied Sport Psychology, 18*(3), 219-239.
- Dale, J., & Weinberg, R. (1990). Burnout in sport: A review and critique. *Journal of Applied Sport Psychology, 2*(1), 67-83.
- Dawes, N. P., Vest, A., & Simpkins, S. (2014). Youth participation in organized and informal sports activities across childhood and adolescence: Exploring the relationships of motivational beliefs, developmental stage and gender. *Journal of Youth and Adolescence, 43*(8), 1374-1388.
- Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality, 19*(2), 109-134.
- Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology, 53*(6), 1024-1037.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268.
- De Francisco, C., Arce, C., del Pilar Vílchez, M., & Vales, Á. (2016). Antecedents and consequences of burnout in athletes: Perceived stress and depression. *International Journal of Clinical and Health Psychology, 16*(3), 239-246.
- DiFiori, J. P., Benjamin, H. J., Brenner, J. S., Gregory, A., Jayanthi, N., Landry, G. L., & Luke, A. (2014). Overuse injuries and burnout in youth sports: A position statement from the American Medical Society for Sports Medicine. *British Journal of Sports Medicine, 48*(4), 287-288.

- Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual review of psychology, 54*(1), 403-425.
- Donohue, B., Miller, A., Crammer, L., Cross, C., & Covassin, T. (2007). A standardized method of assessing sport specific problems in the relationships of athletes with their coaches, teammates, family, and peers. *Journal of Sport Behavior, 30*(4), 375-397.
- Eades, A. M. (1990). *An investigation of burnout of intercollegiate athletes: The development of the Eades Athlete Burnout Inventory*. University of California, Berkeley.
- Faircloth, B. S., & Hamm, J. V. (2005). Sense of belonging among high school students representing 4 ethnic groups. *Journal of Youth and Adolescence, 34*(4), 293-309.
- Feigley, D. A. (1984). Psychological burnout in high-level athletes. *The Physician and Sportsmedicine, 12*(10), 108-119.
- Fenton, S. A., Duda, J. L., Quested, E., & Barrett, T. (2014). Coach autonomy support predicts autonomous motivation and daily moderate-to-vigorous physical activity and sedentary time in youth sport participants. *Psychology of Sport and Exercise, 15*(5), 453-463.
- Ferguson, L. (2004). External validity, generalizability, and knowledge utilization. *Journal of Nursing Scholarship, 36*(1), 16-22.
- Ferreira, M. & Kosenok, G. (2018). Charter school entry and school choice: The case of Washington, D.C. *Journal of Public Economics. 159*, 160-182.
- Fraser-Thomas, J., & Côté, J. (2009). Understanding adolescents' positive and negative developmental experiences in sport. *The Sport Psychologist, 23*(1), 3-23.
- Frisch, A., Croisier, J. L., Urhausen, A., Seil, R., & Theisen, D. (2009). Injuries, risk factors and prevention initiatives in youth sport. *British Medical Bulletin, 92*(1), 95-121.

- Froyen, A. F., & Pensgaard, A. M. (2014). Antecedents of need fulfillment among elite athletes and coaches: A qualitative approach. *International Journal of Applied Sports Sciences*, 26(1), 26-41.
- González, L., Tomás, I., Castillo, I., Duda, J. L., & Balaguer, I. (2017). A test of basic psychological needs theory in young soccer players: time-lagged design at the individual and team levels. *Scandinavian Journal of Medicine & Science in Sports*, 27(11), 1511-1522.
- Goodger, K., Wolfenden, L., & Lavalley, D. (2007). Symptoms and consequences associated with three dimensions of burnout in junior tennis players. *International Journal of Sport Psychology*, 38(4), 342-364.
- Gould, D., Tuffey, S., Udry, E., & Loehr, J. (1996). Burnout in competitive junior tennis players: I. A quantitative psychological assessment. *The Sport Psychologist*, 10(4), 322-340.
- Gould, D., Tuffey, S., Udry, E., & Loehr, J. (1996). Burnout in competitive junior tennis players: II. Qualitative analysis. *The Sport Psychologist*, 10(4), 341-366.
- Gould, D., Udry, E., Tuffey, S., & Loehr, J. (1997). Burnout in competitive junior tennis players: III. Individual differences in the burnout experience. *The Sport Psychologist*, 11(3), 257-276.
- Gould, D., & Whitley, M. A. (2009). Sources and consequences of athletic burnout among college athletes. *Journal of Intercollegiate Sport*, 2(1), 16-30.
- Gustafsson, H., Hassmén, P., Kenttä, G., & Johansson, M. (2008). A qualitative analysis of burnout in elite Swedish athletes. *Psychology of Sport and Exercise*, 9(6), 800-816.

- Gustafsson, H., Kenttä, G., & Hassmén, P. (2011). Athlete burnout: An integrated model and future research directions. *International Review of Sport and Exercise Psychology*, 4(1), 3-24.
- Gustafsson, H., Kenttä, G., Hassmén, P., & Lundqvist, C. (2007). Prevalence of burnout in competitive adolescent athletes. *The Sport Psychologist*, 21(1), 21-37.
- Gustafsson, H., Lundkvist, E., Podlog, L., & Lundqvist, C. (2016). Conceptual confusion and potential advances in athlete burnout research. *Perceptual and Motor Skills*, 123(3), 784-791.
- Gustafsson, H., Sagar, S. S., & Stenling, A. (2017). Fear of failure, psychological stress, and burnout among adolescent athletes competing in high level sport. *Scandinavian Journal of Medicine & Science in Sports*, 27(12), 2091-2102.
- Hansen, D. M., Larson, R. W., & Dworkin, J. B. (2003). What adolescents learn in organized youth activities: A survey of self-reported developmental experiences. *Journal of Research on Adolescence*, 13(1), 25-55.
- Harris, B. S., & Watson, J. C. (2011). Assessing youth sport burnout: A self-determination and identity development perspective. *Journal of Clinical Sport Psychology*, 5(2), 117-133.
- Harris, B. S., & Watson, J. C. (2014). Developmental considerations in youth athlete burnout: A model for youth sport participants. *Journal of Clinical Sport Psychology*, 8(1), 1-18.
- Hill, A. P., Hall, H. K., Appleton, P. R., & Kozub, S. A. (2008). Perfectionism and burnout in junior elite soccer players: The mediating influence of unconditional self-acceptance. *Psychology of Sport and Exercise*, 9(5), 630-644.

- Hill, A. P., Hall, H. K., Appleton, P. R., & Murray, J. J. (2010). Perfectionism and burnout in canoe polo and kayak slalom athletes: The mediating influence of validation and growth-seeking. *The Sport Psychologist, 24*(1), 16-34.
- Hill, A. P. (2013). Perfectionism and burnout in junior soccer players: A test of the 2×2 model of dispositional perfectionism. *Journal of Sport and Exercise Psychology, 35*(1), 18-29.
- Hodge, K., Lonsdale, C., & Ng, J. Y. (2008). Burnout in elite rugby: Relationships with basic psychological needs fulfilment. *Journal of Sports Sciences, 26*(8), 835-844.
- Horn, T. S. (2015). Social psychological and developmental perspectives on early sport specialization. *Kinesiology Review, 4*(3), 248-266.
- Isoard-Gautheu, S., Guillet-Descas, E., Gaudreau, P., & Chanal, J. (2015). Development of burnout perceptions during adolescence among high-level athletes: A developmental and gendered perspective. *Journal of Sport and Exercise Psychology, 37*(4), 436-448.
- Isoard-Gauthier, S., Guillet-Descas, E., & Gustafsson, H. (2016). Athlete burnout and the risk of dropout among young elite handball players. *The Sport Psychologist, 30*(2), 123-130.
- Isoard-Gauthier, S., Guillet-Descas, E., & Lemyre, P. N. (2012). A prospective study of the influence of perceived coaching style on burnout propensity in high level young athletes: Using a self-determination theory perspective. *The Sport Psychologist, 26*(2), 282-298.
- Jõesaar, H., Hein, V., & Hagger, M. S. (2011). Peer influence on young athletes' need satisfaction, intrinsic motivation and persistence in sport: A 12-month prospective study. *Psychology of Sport and Exercise, 12*(5), 500-508.
- Jowett, G. E., Hill, A. P., Hall, H. K., & Curran, T. (2016). Perfectionism, burnout and engagement in youth sport: The mediating role of basic psychological needs. *Psychology of Sport and Exercise, 24*, 18-26.

- Kagitcibasi, C. (2005). Autonomy and relatedness in cultural context: Implications for self and family. *Journal of Cross-Cultural Psychology, 36*(4), 403-422.
- Kipp, L. E., & Weiss, M. R. (2013). Social influences, psychological need satisfaction, and well-being among female adolescent gymnasts. *Sport, Exercise, and Performance Psychology, 2*(1), 62-75.
- Li, C., Wang, C. J., & Kee, Y. H. (2013). Burnout and its relations with basic psychological needs and motivation among athletes: A systematic review and meta-analysis. *Psychology of Sport and Exercise, 14*(5), 692-700.
- Madigan, D. J., Stoeber, J., & Passfield, L. (2015). Perfectionism and burnout in junior athletes: A three-month longitudinal study. *Journal of Sport & Exercise Psychology, 37*, 305- 315.
- Mageau, G. A., & Vallerand, R. J. (2003). The coach–athlete relationship: A motivational model. *Journal of Sports Science, 21*(11), 883-904.
- Markland, D., Ryan, R. M., Tobin, V. J., & Rollnick, S. (2005). Motivational interviewing and self–determination theory. *Journal of Social and Clinical Psychology, 24*(6), 811-831.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior, 2*(2), 99-113.
- McNeely, C. A., Nonnemaker, J. M., & Blum, R. W. (2002). Promoting school connectedness: Evidence from the national longitudinal study of adolescent health. *Journal of School Health, 72*(4), 138-146.
- Merkel, D. L. (2013). Youth sport: Positive and negative impact on young athletes. *Open Access Journal of Sports Medicine, 4*, 151-160.

- Moen, F., Federici, R. A., & Abrahamsen, F. (2015). Examining possible relationships between self-determination and burnout among junior athletes in sport. *International Journal of Coaching Science*, 9(2), 43-58.
- Moen, F., Myhre, K., Klöckner, C. A., Gausen, K., & Sandbakk, Ø. (2017). Physical, affective and psychological determinants of athlete burnout. *Sport Journal*, 1.
- Myer, G. D., Jayanthi, N., Difiori, J. P., Faigenbaum, A. D., Kiefer, A. W., Logerstedt, D., & Micheli, L. J. (2015). Sport specialization, part I: Does early sports specialization increase negative outcomes and reduce the opportunity for success in young athletes?. *Sports Health*, 7(5), 437-442.
- The National Council of Youth Sports. (n.d.). Market Research. Retrieved from <http://www.ncys.org/publications/2008-sports-participation-study.php>
- Ng, J. Y., Lonsdale, C., & Hodge, K. (2011). The Basic Needs Satisfaction in Sport Scale (BNSSS): Instrument development and initial validity evidence. *Psychology of Sport and Exercise*, 12(3), 257-264.
- Ommundsen, Y., Roberts, G. C., Lemyre, P. N., & Miller, B. W. (2005). Peer relationships in adolescent competitive soccer: Associations to perceived motivational climate, achievement goals and perfectionism. *Journal of Sports Sciences*, 23(9), 977-989.
- Pacewicz, C. E., & Smith, A. L. (2017). Teammate social behaviors, burnout, and engagement in adolescent athletes. *Journal of Exercise, Movement, and Sport*, 49(1), 113.
- Park, S., & Kim, S. (2014). Parents' perspectives and young athletes' perceptions of social support. *Journal of Exercise Rehabilitation*, 10(2), 118-123.
- Paradis, K. F., & Martin, L. J. (2012). Team building in sport: Linking theory and research to practical application. *Journal of Sport Psychology in Action*, 3(3), 159-170.

- Pate, R. R., Trost, S. G., Levin, S., & Dowda, M. (2000). Sports participation and health-related behaviors among US youth. *Archives of Pediatrics & Adolescent Medicine, 154*(9), 904-911.
- Perreault, S., Gaudreau, P., Lapointe, M. C., & Lacroix, C. (2007). Does it take three to tango? Psychological need satisfaction and athlete burnout. *International Journal of Sport Psychology, 38*, 437-450.
- The Physical Activity Council. (n.d.). 2017 Participation Report. Retrieved from <http://www.physicalactivitycouncil.com/Articles/>
- Prapavessis, H., Carron, A. A., & Spink, K. S. (1996). Team building in sport. *International Journal of Sport Psychology, 27*, 269-285.
- Quested, E., & Duda, J. L. (2011). Antecedents of burnout among elite dancers: A longitudinal test of basic needs theory. *Psychology of Sport and Exercise, 12*(2), 159-167.
- Quested, E., Ntoumanis, N., Viladrich, C., Haug, E., Ommundsen, Y., Van Hoye, A., ... Duda, J. L. (2013). Intentions to drop-out of youth soccer: A test of the basic needs theory among European youth from five countries. *International Journal of Sport and Exercise Psychology, 11*(4), 395-407.
- Raabe, J., & Readdy, T. (2016). A qualitative investigation of need fulfillment and motivational profiles in collegiate cheerleading. *Research Quarterly for Exercise and Sport, 87*(1), 78-88.
- Raabe, J., Zakrajsek, R. A., & Readdy, T. (2016). Teammate influence on collegiate swimmers' basic psychological need satisfaction: A qualitative perspective. *Journal of Intercollegiate Sport, 9*(1), 27-49.

- Raabe, J., & Zakrajsek, R. A. (2017). Coaches and teammates as social agents for collegiate athletes' basic psychological need satisfaction. *Journal of Intercollegiate Sport, 10*(1), 67-82.
- Raedeke, T. D., Lunney, K., & Venables, K. (2002). Understanding athlete burnout: Coach perspectives. *Journal of Sport Behavior, 25*(2), 181-206.
- Raedeke, T. D. (1997). Is athlete burnout more than just stress? A sport commitment perspective. *Journal of Sport and Exercise Psychology, 23*, 281-306.
- Raedeke, T. D., & Smith, A. L. (2001). Development and preliminary validation of an athlete burnout measure. *Journal of Sport & Exercise Psychology, 23*, 281-306.
- Raedeke, T. D., & Smith, A. L. (2004). Coping resources and athlete burnout: An examination of stress mediated and moderation hypotheses. *Journal of Sport and Exercise Psychology, 26*(4), 525-541.
- Richer, S. F., & Vallerand, R. J. (1998). Construction et validation de l'échelle du sentiment d'appartenance sociale (ÉSAS). *European Review of Applied Psychology, 48*(2), 129-138.
- Rotella, R. J., Hanson, T., & Coop, R. H. (1991). Burnout in youth sports. *The Elementary School Journal, 91*(5), 421-428.
- Rottensteiner, C., Laakso, L., Pihlaja, T., & Konttinen, N. (2013). Personal reasons for withdrawal from team sports and the influence of significant others among youth athletes. *International Journal of Sports Science & Coaching, 8*(1), 19-32.
- Russell, W. D. (2014). The relationship between youth sport specialization, reasons for participation, and youth sport participation motivations: A retrospective study. *Journal of Sport Behavior, 37*(3), 286-305.

- Salmela-Aro, K., & Tynkkynen, L. (2012). Gendered pathways in school burnout among adolescents. *Journal of Adolescence*, 35(4), 929-939.
- Scanlan, T. K., Carpenter, P. J., Lobel, M., & Simons, J. P. (1993). Sources of enjoyment for youth sport athletes. *Pediatric Exercise Science*, 5(3), 275-285.
- Schmidt, G. W., & Stein, G. L. (1991). Sport commitment: A model integrating enjoyment, dropout, and burnout. *Journal of Sport and Exercise Psychology*, 13(3), 254-265.
- Silva, J. M. (1990). An analysis of the training stress syndrome in competitive athletics. *Journal of Applied Sport Psychology*, 2(1), 5-20.
- Smith, A. L., Gustafsson, H., & Hassmén, P. (2010). Peer motivational climate and burnout perceptions of adolescent athletes. *Psychology of Sport and Exercise*, 11(6), 453-460.
- Smith, R. E. (1986). Toward a cognitive-affective model of athletic burnout. *Journal of Sport Psychology*, 8(1), 36-50.
- Smith, R. E., Smoll, F. L., & Cumming, S. P. (2007). Effects of a motivational climate intervention for coaches on young athletes' sport performance anxiety. *Journal of Sport and Exercise Psychology*, 29(1), 39-59.
- Sorkkila, M., Aunola, K., & Ryba, T. V. (2017). A person-oriented approach to sport and school burnout in adolescent student-athletes: The role of individual and parental expectations. *Psychology of Sport and Exercise*, 28, 58-67.
- Taliaferro, L. A., Rienzo, B. A., Miller, M. D., Pigg Jr, R. M., & Dodd, V. J. (2008). High school youth and suicide risk: Exploring protection afforded through physical activity and sport participation. *The Journal of School Health*, 78(10), 545-553.
- Vazou, S., Ntoumanis, N., & Duda, J. L. (2005). Peer motivational climate in youth sport: A qualitative inquiry. *Psychology of Sport and Exercise*, 6(5), 497-516.

Weinberg, R. (2010). Making goals effective: A primer for coaches. *Journal of Sport Psychology in Action, 1*(2), 57-65.

Williams, N., Whipp, P. R., Jackson, B., & Dimmock, J. A. (2013). Relatedness support and the retention of young female golfers. *Journal of Applied Sport Psychology, 25*(4), 412-430.

APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE

Please answer the following questions by either circling the answer or writing in your response.

- 1) My current age is
 - A) 13
 - B) 14
 - C) 15
 - D) 16
 - E) 17

- 2) I identify as
 - A) Male
 - B) Female
 - C) Transgender
 - D) Other (please specify) _____
 - E) I choose not to answer

- 3) My race is
 - A) Hispanic, Latino, or Spanish Origins
 - B) Not Hispanic, Latino, or Spanish Origins

- 4) My ethnicity is
 - A) White/Caucasian
 - B) African American/Black
 - C) American Indian/Native American
 - D) Asian/Pacific Islander
 - E) Mixed
 - F) Other (please specify) _____

- 5) I am currently
 - A) Freshman
 - B) Sophomore
 - C) Junior
 - D) Senior
 - E) Other (please specify) _____

- 6) The sport I am currently participating in is _____.

- 7) I have been involved with my sport for _____ (number) years.

- 8) I am involved with _____ other sports. Please list the other sports you are also involved with during the year. _____

- 9) **Number of siblings**
- A) **0, only child**
 - B) **1**
 - C) **2**
 - D) **3**
 - E) **4**
 - F) **5 or more siblings**

APPENDIX B
ATHLETE BURNOUT QUESTIONNAIRE

Instructions: Please indicate the level you identify with the following statements. There are no right or wrong answers to this survey.

Item	1 = "almost never," 2 = "rarely," 3 = "sometimes," 4 = "frequently," 5 = "almost always."				
I am accomplishing many worthwhile things in [sport]	1	2	3	4	5
I feel so tired from my trainings that I have trouble finding energy to do other things	1	2	3	4	5
The effort I spend in [sport] would be better spent doing other things	1	2	3	4	5
I feel overly tried from my [sport] participation	1	2	3	4	5
I am not achieving much in [sport]	1	2	3	4	5
I don't care as much about my [sport] performance as I used to	1	2	3	4	5
I am not performing up to my ability in [sport]	1	2	3	4	5
I feel "wiped out" from [sport]	1	2	3	4	5
I'm not into [sport] like I used to be	1	2	3	4	5
I feel physically worn out from [sport]	1	2	3	4	5
I feel less concerned about being successful in [sport] than I used to	1	2	3	4	5
I am exhausted by the mental and physical demands of [sport]	1	2	3	4	5
It seems no matter what I do, I don't perform as well as I should	1	2	3	4	5
I feel successful at [sport]	1	2	3	4	5
I have negative feelings toward [sport]	1	2	3	4	5

APPENDIX C

NEED FOR RELATEDNESS SCALE

Instructions: Think about **your teammates** and how they generally interact with you. Please indicate how much you personally agree, or disagree, with what is stated by circling the appropriate answer.

“On this team, I feel...”	Strongly disagree		Neutral		Strongly agree
1. Supported	1	2	3	4	5
2. Listened to	1	2	3	4	5
3. Understood	1	2	3	4	5
4. Valued	1	2	3	4	5
5. Safe	1	2	3	4	5

Instructions: Think about **your coaches** and how they generally interact with you. Please indicate how much you personally agree, or disagree, with what is stated by circling the appropriate answer.

“On this team, I feel...”	Strongly disagree		Neutral		Strongly agree
6. Supported	1	2	3	4	5
7. Listened to	1	2	3	4	5
8. Understood	1	2	3	4	5
9. Valued	1	2	3	4	5
10. Safe	1	2	3	4	5

Instructions: Think about **your parents/guardians** and how they generally interact with you when it comes to sport. Please indicate how much you personally agree, or disagree, with what is stated by circling the appropriate answer.

“With my parents/guardians, I feel...”	Strongly disagree		Neutral		Strongly agree
11. Supported	1	2	3	4	5
12. Listened to	1	2	3	4	5
13. Understood	1	2	3	4	5
14. Valued	1	2	3	4	5
15. Safe	1	2	3	4	5

Table 1

Athlete Burnout and Relatedness Means and SDs

	Mean	SD
Reduced sense of accomplishment	2.21	.76
Physical and emotional exhaustion	2.36	.91
Sport Devaluation	2.05	.94
Teammate Relatedness	3.96	.95
Parent Relatedness	4.60	.64
Coach Relatedness	4.13	.87

Table 2

Correlations of ABQ Scores and Relatedness

	RA	E	D
Teammates	-0.48**	.05	-0.41**
Parents	-0.29**	.09	-.04
Coaches	-0.39**	-.08	-0.41**

Note. RA = Reduced sense of accomplishment; E = Physical and emotional exhaustion; D = Sport devaluation; ** $p < .01$