RELATIONSHIP BETWEEN BODY-RELATED SELF-CONSCIOUS EMOTIONS AND
MOTIVATIONAL SPORT EXPERIENCES AMONG ADOLESCENT FEMALES:
EXAMINING MODERATION EFFECTS OF PHYSICAL SELF-PERCEPTIONS

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The following individuals certify that they have read, and recommend to the Faculty of Graduate and Postdoctoral Studies for acceptance, a thesis entitled:

Relationship Between Body-Related Self-Conscious Emotions and Motivational Sport Experiences Among Adolescent Females: Examining Moderation Effects of Physical Self-Perceptions

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Abstract

Participation in sport provides many psychological, physical and social health benefits for adolescents. Unfortunately, female adolescents participate in organized sport significantly less than their male peers. During adolescence, appearance and social evaluations begin to hold a greater significance for young females, which creates a vulnerable period for body image related thoughts, behaviours, and emotions, such as body-related self-conscious emotions (pride, shame, guilt, envy and embarrassment). Past research suggests that negative and positive body-related self-conscious emotions may influence specific sport experiences. Additionally, physical self-perceptions may moderate this relationship, such that higher levels of physical self-perceptions may protect against the damaging effects of negative body-related emotions. This research explored the influence of body-related emotions and physical self-perceptions on motivational sport experiences within an adolescent female population. A sample of 107 females (12 to 18-years-old) who were participating in an organized sport completed an online survey assessing appearance and fitness body-related self-conscious emotions, social physique anxiety, physical self-concept, perceived athletic competence, and sport motivation, commitment and enjoyment. Multiple regression analyses were used to examine the relationships between body-related emotions, physical self-perceptions and motivational sport experiences. Results indicated that positive body-related emotions were related to positive motivational sport experiences, while negative body-related emotions were associated with poor motivational sport experiences. Furthermore, physical self-perceptions were related to positive motivational sport experiences, but did not moderate the relationship between body-related emotions and sport experiences. Overall, this research has the potential to inform future intervention strategies aimed at reducing
negative body-related emotions in female sport and encouraging positive sport participation experiences and outcomes.
Lay Summary

The impact of body-related self-conscious emotions and physical self-perceptions on sport experiences was explored in a sample of adolescent female athletes. Findings revealed that positive emotions were associated with positive aspects of sport commitment and motivation, while negative emotions were related to negative components of sport commitment and motivation. Furthermore, physical self-perceptions were also related to motivational sport experiences, but did not influence the relationship between body-related emotions and sport experiences. Findings suggest that body-related self-conscious emotions play a significant role in the sport experience of adolescent females. This information may assist in the creation and implementation of interventions designed to keep more females participating in sport.
Preface

This research was approved by the University of British Columbia’s Behavioural Research Ethics Board (H18-00134). A version of this work will be submitted for publication and presented in a poster format at a conference. This research was based off of a Social Science and Humanities Research Council grant submitted by Dr. Catherine Sabiston. I designed and carried out this research with the support of my supervisor, Dr. Peter Crocker. I was responsible for developing specific research questions, participant recruitment, data collection, analysis, and thesis preparation. Sierra Arn, Thalia Otamendi and Sonia Jain assisted with participant recruitment. Dr. Peter Crocker, Dr. Guy Faulkner, and Dr. Catherine Sabiston were the members of the thesis research committee.
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Dedication

This thesis is dedicated to all of the strong women in sport who continue to push boundaries, elicit change, and empower the next generation of female athletes.

“The success of every woman should be the inspiration to another. We should raise each other up. Make sure you’re very courageous: be strong, be extremely kind, and above all be humble.”

- Serena Williams
Chapter 1: Introduction

Research has consistently shown that regular participation in physical activity throughout the lifespan is imperative for maintaining physical and mental health (Eime, Young, Harvey, Charity, & Payne, 2013b). Physical activity provides many physical benefits, such as a reduced risk of obesity, heart disease and other chronic illnesses, but it has also been shown to contribute to behavioural and psychological well-being by increasing positive mood, lowering anxiety and promoting positive self-perceptions (Donaldson & Ronan, 2006; Slater & Tiggemann, 2011). Unfortunately, most adolescents worldwide are not engaging in an appropriate amount of physical activity and females are significantly less active than their male counterparts (World Health Organization, 2010). Within Canada, only three percent of females ages 12 to 17 are meeting physical activity guidelines in comparison to eight percent of males within the same age bracket (Public Health Agency of Canada, 2016). Additionally, sport participation rates tend to decrease among females in early adolescence (Eime et al., 2016; Knight & Holt, 2011). Recent data shows that one in three girls disengage from sport during adolescence, whereas the dropout rate for teenage boys is only one in 10 (Canadian Women & Sport, 2020). This is problematic as sport participation provides many social benefits to youth, such as positive intergroup and peer relationships (Côté & Fraser-Thomas, 2016). Researchers have found that females who remain actively involved in organized sport throughout adolescence tend to also have higher physical activity levels (Biddle, Whitehead, O’Donovan, & Nevill, 2005). Thus, one solution to increase physical activity rates is to encourage more organized sport participation among females (Casper, Boccarro, Kanters, & Floyd, 2011; Marques, Ekelund, & Sardinha, 2016). Therefore, it is important to understand why sport drop out occurs in order to increase participation in
physical activity and allow more adolescent females to experience the positive benefits of being physically active.

Researchers have examined many factors to explain sport withdrawal among adolescent females. Commonly cited reasons for sport dropout include a lack of fun, negative interactions with significant others, as well as body image related issues and emotions, which will be the focus of this thesis (Abbott & Barber, 2011; Craike et al., 2016; Fraser-Thomas, Côté, & Deakin, 2008; Smolak, 2011; Weiss & Williams, 2004). During adolescence, appearance and social evaluations begin to hold a greater significance for young females, which creates a vulnerable period for body image related thoughts, behaviours, and emotions (Crocker, Kowalski, & Hadd, 2008; Sabiston, Sedgwick, Crocker, Kowalski, & Mack, 2007). In sport and exercise contexts, attention is focused primarily on the function and appearance of the body, which can elicit body-related self-evaluations (Sabiston, Pila, Pinsonnault-Bilodeau, & Cox, 2014). This increased focus on the body can produce many positive and negative body image concerns and body-related emotions such as shame, guilt, pride, and social physique anxiety (Pila, Brunet, Crocker, Kowalski, & Sabiston, 2016; Sabiston et al., 2007; Sabiston et al., 2014). Recent research in adolescent females suggests that body-related self-conscious emotions may predict motivational sport experiences and outcomes as increases in body-related shame, guilt and envy, and decreases in pride are related to lower enjoyment and commitment in sport environments (Pila et al., 2020). Additionally, positive physical self-perceptions are significantly associated with higher physical activity and sport participation (Crocker et al., 2008) and recent qualitative research suggests that higher levels of physical self-perceptions may protect adolescent females against the damaging effects of negative body-related emotions on sport experiences and outcomes (Sabiston & Pila, 2016).
Further research is needed to understand the effects of body-related emotions on specific motivational sport experiences as well as the moderating role of physical self-perceptions. Therefore, the purpose of this research was to examine the effects of positive and negative body-related self-conscious emotions (i.e., shame, guilt, envy, embarrassment, pride) on sport motivation, commitment and enjoyment. This study also aimed to understand the impact of physical self-perceptions on these specific motivational sport experiences. Lastly, this study sought to understand the moderating role of physical self-perceptions on the relationship between body-related emotions and motivational sport experiences.
Chapter 2: Literature Review

2.1 Adolescent Sport Participation

Researchers have repeatedly identified that participation in physical activity provides many physical, psychological and social health benefits to adolescent populations (Côté & Fraser-Thomas, 2016; Donaldson & Ronan, 2006; Fraser-Thomas, Côté, & Deakin, 2005). However, sport may provide additional benefits beyond regular physical activity, especially for adolescent populations (Knight & Holt, 2011; Slater & Tiggemann, 2011). Extensive research has examined the personal and social factors that lead to positive sport outcomes for youth (Fraser-Thomas et al., 2005). In summation, sport programs provide youth with the opportunity to be active to improve their physical health, enhance personal development by learning life skills, and develop performance and motor skills (Côté & Fraser-Thomas, 2016). Specifically, sport participation can encourage cooperation, self-discipline, teamwork, competence, increased life satisfaction and healthy lifestyle choices (Côté & Fraser-Thomas, 2016; Palomäki et al., 2018; Slater & Tiggemann, 2011). Despite the benefits of sport, participation in organized sport begins to decrease significantly during adolescence for both males and females (Howie, Mcveigh, Smith, & Straker, 2016; Knight & Holt, 2011). Researchers have found that from a participation peak at age 14, sport participation begins to drop significantly (Eime & Harvey, 2018). This decline throughout adolescence may be explained by a number of personal and psychological factors, such as changes in life priorities and time demands, financial costs, shifting attitudes towards academic achievement and employment, a lack of support from families, friends, and teachers, self-perceptions and competing behaviours, low levels of well-being, and body image concerns (Berger, O’Reilly, Parent, Seguin, & Hernandez, 2008; Eime et
al., 2016; Fraser-Thomas et al., 2008; Lagestad, 2019; Slater & Tiggemann, 2011; Somerset & Hoare, 2018).

2.1.1 Sex Differences

For females, adolescence is an unstable time of biological, environmental, social and psychological transformations, which drastically influences participation rates in physical activity and sport (Clare, 2018; Eime et al., 2013a). As a result, from ages nine to 18, female participation in all aspects of physical activity declines, and there is a particularly large decline for participation in organized sport programs (Eime et al., 2013a, 2015; Telama & Yang, 2000). Eime and colleagues (2016) surveyed 729 Australian adolescent females and found that during adolescence there was a transition from structured sport to non-organized physical activity, which may negatively affect the social and psychological health of females. Sport is social in nature; therefore, it improves psychosocial health to a greater degree than general physical activity because it provides opportunities to improve self-esteem and create positive relationships with others (Eime et al., 2013b). The disparity between male and female rates of physical activity and sport participation is also important to address because adolescents who consistently participate in organized sport are more likely to engage in healthy lifestyle habits during adulthood (Palomäki et al., 2018). Additionally, continued participation in sport creates increased levels of physical activity, which is imperative for healthy development (Bengoechea, Sabiston, Ahmed, & Farnoush, 2017; Biddle et al., 2005; Howie et al., 2016).

Many factors may explain sex differences in adolescent sport participation, such as activity options, social support and gender role expectations (Laird, Fawkner, & Niven, 2018; Slater & Tiggemann, 2011). For females, many psychological barriers exist that prevent and discourage active participation in sport (Eime et al., 2015). For example, young females with a
high level of personal psychological dissatisfaction are less willing to participate in physical activity and sport (Slater & Tiggemann, 2011). Additionally, females with low perceived competence and high weight status often see these factors as being barriers to participation in physical activity and sport (Corr, McSharry, & Murtagh, 2019). Adolescent females around the age of 13 are particularly vulnerable to declining levels of physical activity and sport participation as they begin to experience changes associated with their body image and self-esteem, as well as changes in their autonomy, peer groups, support networks, and school environment (Casey, Eime, Payne, & Harvey, 2009; Clare, 2018). Additionally, gender specific experiences of teasing related to body image concerns have been found to reduce confidence in female populations and contribute to the high withdrawal rates from physical activity and sport (Casey et al., 2009; Slater & Tiggemann, 2011). Young females have noted that gender stereotypes within sport often inhibit their agency, empowerment and identity as an athlete (Lunde & Gattario, 2017). Therefore, young females may enjoy a sport more and be more likely to continue to participate in sport if they experience increased feelings of competence and positive body image while engaging in sport (Corr et al., 2019; Shaffer & Wittes, 2006). Overall, it is evident that female adolescents continue to disengage from sport at higher rates than their male counterparts. Researchers have identified many factors that inhibit their participation in sport, such as social comparisons, gender stereotypes, teasing, low perceived competence and negative emotions, which are all predominantly centered around body image (Casey et al., 2009; Corr et al., 2019; Howie et al., 2016).

2.2 Body Image

Body image is a multidimensional construct that has perceptual, cognitive, behavioural and affective dimensions (Banfield & McCabe, 2002; Cash & Green, 1986; Cash, Phillips,
Santos, & Habsoky, 2004; Smolak, 2004). The perceptual component is reflected in the accuracy of an individual to estimate their body size, weight and shape relative to their actual proportions (Banfield & McCabe, 2002; Cash & Green, 1986; Slade, 1994). The cognitive component encompasses beliefs and thoughts about body size, shape and appearance, while the behavioural dimension pertains to various grooming and body maintenance activities (Banfield & McCabe, 2002; Cash & Green, 1986). Lastly, the affective dimension of body image includes the feelings and attitudes an individual has towards their body size and appearance (Cash & Green, 1986).

Body image is generally conceptualized as being socially constructed, which means it can have different meanings depending on an individual’s cultural context and experience with gender socialization (Cash, Melnyk, & Hrabosky, 2004; Meland, Haugland, & Breidablik, 2007). Western culture typically conveys socially constructed body standards that emphasize femininity and thinness among females, while promoting a masculine and athletic body type for males (Krane, Choi, Baird, Aimar, & Kauer, 2004). Unfortunately, this creates unrealistic and unattainable standards for many people. When an individual embraces these body ideals, it can increase body comparisons and have a negative impact on one’s body image (Betz, Sabik, & Ramsey, 2019). Additionally, if an individual feels there is incompatibility between their actual body type and their ideal body shape, they are at risk for negative mental health outcomes (Solomon-Krakus et al., 2017).

Although body image concerns affect females and males, it is females who tend to be more at risk for negative body image issues because of exposure to more consistent and clear messages about body ideals starting from an earlier age than males (Smolak, 2011). Additionally, females report greater body dissatisfaction and body disturbance than males, and this disparity becomes more significant during adolescence (Abbott & Barber, 2011; Cash et al., 2004a;
Soulliard, Kauffman, Fitterman-Harris, Perry, & Ross, 2019). Body image issues often become more apparent during adolescence as females experience physical changes associated with puberty, and begin to place more importance on peer acceptance and achieving societal body standards (Craike et al., 2016). This pressure is heightened by the increasing availability and use of social media outlets, which can lead to an increase in negative body image and a decrease in body satisfaction (Hogue & Mills, 2019; Prichard, McLachlan, Lavis, & Tiggemann, 2018; Tiggemann & Barbato, 2018). Although females are aware of this societal influence, the pressure of Western beauty ideals still has an overwhelming and negative effect on female’s body attitudes (Monteath & McCabe, 1997). In turn, young females striving to achieve this societal ideal of thinness are at risk for dieting, which makes them vulnerable to eating disorders (Oliveira et al., 2017; Smolak, 2004). Additionally, negative body image in female adolescents can contribute to physical and psychological health problems including stress, fatigue, anger, tension, depression, and negative affect (Pritchard & Wilson, 2005; Smolak, 2004).

2.2.1 Body Image and Sport

Athletes’ bodies are often evaluated based on size, shape and weight, with the common idea that the fitter and leaner athletes have more potential to perform successfully (Porter, Morrow, & Reel, 2017). Female athletes may encounter issues with their self-identity when they attempt to combine societal ideas about the feminine body with the ideal physique for an athlete; this confusion can create emotional stress (Beckner & Record, 2016; Bennett, Scarlett, Hurd Clarke, & Crocker, 2016). Lunde and Gattario (2017) found that female athletes struggled to balance the contradictory body ideals in various cultures; the sport culture highlights the need for the physical performance of the body (e.g., strength and speed), while the culture outside of sport focuses on the appearance of the body. Additionally, many females feel objectified within the
sport context because their body is placed on display and subjected to evaluation as well as negative body-related comments from others (Petrie & Greenleaf, 2011). It is evident that sporting contexts promote a greater focus on body image, but the literature contains contradictions as to whether sport participation promotes positive or negative body image (Bissell, 2004; Greenleaf, Boyer, & Petrie, 2009).

Sporting contexts can be beneficial for adolescent females as greater participation in physical activity and sport has been found to be associated with positive body image (Sabiston, Pila, Vani, & Thogersen-Ntoumani, 2019). Sport can encourage adolescent females to not just assess their body based on appearance, and instead view their body as a functional tool that allows them to be strong and competent (Abbott & Barber, 2011; Bennett et al., 2016). This functional perspective of one’s body has the potential to buffer the negative effects of unrealistic societal body standards and reduce self-objectification (Abbott & Barber, 2011; Varnes et al., 2013). Additionally, Greenleaf and colleagues (2009) suggested that various forms of sport and physical activity provided young females with the opportunity to control their body and learn to be assertive and independent, which would protect them from negative body-related comments. Abbott and Barber (2011) found that participation in organized sporting activities offered young females a unique experience beyond other physical activity, which created an increase in athletic competence and positive body image. Although sport participation may act as a protective factor for young females experiencing negative body image and disordered eating behaviours, it may also reinforce negative attitudes and actions (Lunde & Gattario, 2017). Sporting environments can often place a high importance on appearance and social evaluations, which increases the likelihood that female adolescents will experience negative body image (Slater & Tiggemann, 2011).
Although female athletes report feeling happy with their body when performing in their sport, they are often uncomfortable in other social contexts in which their body does not fit the cultural ideal (Petrie & Greenleaf, 2011). Female athletes often feel there is a need to choose whether they desire a body that performs well or one that fits appearance ideals and that it is impossible to satisfy both qualities (Lunde & Gattario, 2017). Bennett and colleagues (2016) found that university female athletes expressed body satisfaction, but they often still desired a body-related change that would allow them to move closer to achieving the feminine ideal. Additionally, female athletes that engage in sports that have a strong focus on appearance or body weight control (e.g., gymnastics, running or swimming) are more likely to experience negative perceptions of the body, higher levels of body dissatisfaction and the presence of risk factors for disordered eating behaviours (Oliveira et al., 2017; Slater & Tiggemann, 2011; Varnes et al., 2013).

While participating in sport, females are more likely than males to feel that others are evaluating how they look, laughing at their appearance or lack of coordination, and shouting negative comments related to their body size or weight; this contributes to a lower enjoyment of sport, and a reduced desire to participate in sport (Faith, Leone, Ayers, Heo, & Pietrobelli, 2002; O’Dea, 2006; Slater & Tiggemann, 2011). Lunde and Gattario (2017) found that female athletes expressed feeling appearance prejudice in that overweight individuals are expected to have a worse sport performance and be judged based on their appearance. Furthermore, Slater and Tiggemann (2011) found that adolescent females had lower rates of sport participation due to body image concerns that stemmed from body-related teasing from both same-sex and opposite-sex peers. Additionally, adolescents who experience weight criticism from family and peers report low sport enjoyment, a negative attitude towards sports, and a reduction in physical
activity and sport participation (Faith et al., 2002). Overall, when adolescent females are anxious about the prospect of having their bodies objectified, teased, and shamed during exercise, they are less likely to participate in sport and physical activity (Monge-Rojas et al., 2017; Slater & Tiggemann, 2011). Therefore, it is important to develop a greater understanding of the various issues that lead to negative body image in female sport in order to minimize the negative impact on sport experiences and outcomes.

2.3 Body-Related Emotions

A primary focus of this thesis was on the affective component of body image which encompasses the feelings and emotions people have towards their bodies’ appearance and function (Banfield & McCabe, 2002; Cash & Green, 1986; Menzel, Krawcyzk, & Thompson, 2011; Sabiston et al., 2010). It is important to understand body-related emotions in sport contexts as affective components of body image have been found to be good predictors of behaviours, thus making this knowledge valuable for the development of theoretical models and future interventions (Gilchrist, Pila, Castonguay, Sabiston, & Mack, 2018; Rhodes, Fiala, & Conner, 2009; Sabiston et al., 2010; Vani, Pila, Willson, & Sabiston, 2020). Within the sport and exercise literature, research has primarily focused on trait social physique anxiety as the expression of body-related emotions (Hart, Leary, & Rejeski, 1989; Sabiston et al., 2010). However, there is emerging work examining more specific body-related self-conscious emotions, such as shame, pride, guilt, envy, and embarrassment (Castonguay, Gilchrist, Mack, & Sabiston, 2013; Gilchrist, Conroy, & Sabiston, 2017; Pila et al., 2020; Pila, Stamiris, Castonguay, & Sabiston, 2014; Sabiston et al., 2010; Sabiston et al., 2020; Vani et al., 2020).
2.3.1 Social Physique Anxiety

Although social physique anxiety is not typically classified as a body-related self-conscious emotion, within sport and exercise literature it has been widely studied as the affective component of body image (Sabiston et al., 2010). Social physique anxiety is defined as, “a subtype of social anxiety that occurs as a result of the prospect or presence of interpersonal evaluation involving one’s physique” (Hart et al., 1989, p.96). The term physique includes various aspects of the body including fat, muscle tone, and bodily proportions (Hart et al., 1989). When an individual perceives that others are unfavorably evaluating aspects of their physique, they are likely to experience social physique anxiety, which may be associated with a number of negative consequences (Hart et al., 1989; Portman, Bradbury, & Lewis, 2018). For example, an individual that experiences a high level of social physique anxiety may avoid situations that place their physique under observation, become distressed when their body is on display, avoid activities that highlight their physique, and attempt to change their physique through harmful or unhealthy means (Hart et al., 1989). Additionally, social physique anxiety can lead to maladaptive coping strategies, such as cognitive avoidance, and substance use (Kowalski, Mack, Crocker, Neifer, & Fleming, 2006; Sabiston et al., 2007).

As females enter adolescence, biological and psychological factors converge to create a greater importance being placed on physical appearance assessments, self-presentation, and peer acceptance (Craike et al., 2016; Gay, Monsma, & Torres-McGehee, 2011; Niven, Fawkner, Knowles, Henretty, & Stephenson, 2009). The criticism that young females receive from others regarding their physique creates negative feelings in relation to the body and as a result, females report significantly higher levels of social physique anxiety in comparison to males (Portman et al., 2018; Sabiston et al., 2007). Many researchers have noted the high occurrence of social
physique anxiety in young females, such as Kowalski and colleagues (2006) who found that out of 398 young females only five were not able to report a specific situation in which they had felt social physique anxiety within the past year. The prevalence of this emotion is concerning given its negative impact on female adolescents’ overall health and well-being. Since adolescence is a critical period for developing health-related attitudes and behaviours that continue throughout an individual’s lifespan, some researchers have argued that it is important to identify adolescent females at risk for experiencing high social physique anxiety and attempt to intervene on this issue (Calmeiro & Gaspar de Matos, 2018).

### 2.3.1.1 Social Physique Anxiety and Sport

Social physique anxiety is commonly experienced in physical activity contexts, such as sport, because the appearance and function of the body is on display and these environments are fundamentally social and evaluative in nature (Sabiston et al., 2014). As a result, social physique anxiety can arise in exercise contexts and influence an individual’s participation (Sabiston et al., 2014). Research suggests that social physique anxiety can contribute to a decline in the desire to engage in physical activity by undermining feelings of relatedness, competence, and intrinsic motivation (Brunet & Sabiston, 2008; Sicilia, Sáenz-Alvarez, González-Cutre, & Ferriz, 2016). Additionally, Niven et al. (2009) found that the quality of an individual’s motivation moderates the relationship between physical activity and social physique anxiety. Females motivated to participate in physical activity, such as sport, for extrinsic body-related reasons were more likely to experience social physique anxiety and as a result, report lower levels of engagement in physical activity (Niven et al., 2009).

It is clear that social physique anxiety is a prevalent body-related emotion experienced by females participating in physical activity contexts. However, qualitative research conducted by
McHugh and colleagues (2008) found that young females often had diverse emotional experiences with respect to their body that could not be understood with the singular construct of social physique anxiety. Thus, multiple other body-related emotions must also be considered (McHugh et al., 2008; Sabiston et al., 2010). To better understand the experience of the affective dimension of body image, researchers have increasingly focused on self-conscious emotions such as pride, shame, guilt, envy, and embarrassment (Crocker et al., 2013; Pila et al., 2014; Sabiston et al. 2010, 2014).

2.3.2 Self-Conscious Emotions and the Process Model

Tracy and Robins (2004) developed the Process Model of Self-Conscious Emotions to distinguish the processes that give rise to self-conscious emotions relative to basic emotions and to differentiate the cognitive processes involved in each different self-conscious emotion (i.e., guilt, shame, embarrassment, authentic pride, and hubristic pride). The model holds that in order to experience a self-conscious emotion, individuals require self-awareness (i.e., the ability to reflect on one’s own self), self-representations (i.e., self-concept; a sense of who I am) and self-evaluations (i.e., evaluating oneself). The Process Model specifies that an individual must first appraise an event and decide whether it is directly relevant to one’s survival; if the answer is yes than the individual will experience a basic emotion, such as sadness or joy. If an event is not relevant to survival goals, then the individual must then determine if the event directs attention towards the self and activates self-representations. Furthermore, the individual decides if the event is important or meaningful to one’s identity goals. If the event is relevant to the person they want to be, then the individual decides if the event is congruent with identity goals. Positive self-conscious emotions are elicited if an individual appraises an event as being identity-goal congruent while negative self-conscious emotions arise from identity-goal incongruence. To
determine goal congruence, the individual compares the current self-representation with their stable, long-term self-representations as well as their actual and ideal self-representations. When the individual has determined whether the event is congruent or incongruent with identity goals, the cause of the event is determined. Events attributed to an internal cause lead to the elicitation of a self-conscious emotion. The individual then determines if the event was caused by a stable and unchanging ability or by an unstable attribute, such as effort. Additionally, the individual decides if the event was caused by the individual as a whole or by something specific about oneself. After completing all of these appraisal processes, which occur very rapidly, a self-conscious emotion is elicited.

2.3.2.1 Shame and Guilt

Shame and guilt are elicited by similar cognitive processes; the individual must focus attention on some aspect of the self to activate public or private self-representations, appraise the event as being relevant to and incongruent with their goals, and make internal causal attributions (Tracy & Robins, 2004). The two emotions are distinguished through globality and stability attributions. An individual experiences shame when the blame is attributed to stable and global causes (e.g., “I am a bad athlete”), whereas guilt is experienced when an individual blames unstable and specific causes for the event (e.g., “My skills were bad during that soccer game”).

2.3.2.2 Embarrassment

Similar to the cognitive processes involved in shame and guilt, embarrassment requires an appraisal of identity-goal relevance and incongruence and attributions to internal causes (Tracy & Robins, 2004). However, embarrassment does not require any further attributions and only occurs when the individual is focused on the public self and public self-representations are activated. In summation, an individual becomes embarrassed by events blamed on internal,
stable and global aspects of the public self (e.g., repeatedly being called incompetent by one’s coach) or internal, unstable and specific aspects of the public self (e.g., scoring on one’s own net during a soccer game).

2.3.2.3 Authentic and Hubristic Pride

Pride is experienced when attention is focused on the individual, self-representations are activated, events are appraised as congruent with identity goals, and the individual takes credit for the situation as the result of an internal factor (Tracy & Robins, 2004). Tracy and Robins (2004) further extend pride in their model, by differentiating between achievement oriented (authentic) and hubristic pride based on attributions of stability and globality. A global sense of pride in the self and attributing success to stable causes, such as ability, leads to feelings of superiority and the feeling of hubristic pride (e.g., “I am proud that my fitness is better than others”). Conversely, authentic pride is elicited when success is attributed to specific achievements and to unstable causes, such as effort (e.g., “I am proud of the effort I put on my fitness”).

2.3.2.4 Envy

Although envy was not included in the process model it is classified as a negatively valanced self-conscious emotion and it is often experienced in physical activity contexts (Pila et al., 2014). Envy occurs when, “a person lacks another’s superior quality, achievement, or possession and either desires it or wishes that the other lacked it” (Parrott & Smith, 1993, p. 906). Envy is elicited by a longing for a socially desired object or trait that is possessed by another individual (Foster, 1972; Pila et al., 2014) and may be accompanied by feelings of inferiority, longing, resentment, guilt, denial, or ill will towards another person (e.g., “I am frustrated that my teammate has better skills than me;” Parrott & Smith, 1993).
2.3.3 Fitness and Appearance Body-Related Self-Conscious Emotions and Sport

During adolescence, the increasing importance of self-presentation and social evaluation in regard to one’s physique can lead to self-conscious emotions in relation to the appearance and function of the body (Castonguay, Sabiston, Kowalski, & Wilson, 2016; Sabiston et al., 2010; Somerville et al., 2013; Tangney, 2002). Physical activity contexts provide the ideal environment to research fitness and appearance focused body-related self-conscious emotions as these contexts provide plenty of opportunity to be evaluated on appearance and physical skills (Sabiston et al., 2010; Sabiston, 2014). Negative perceptions of one’s appearance has been linked to poor sport experiences (Lunde & Gattario, 2017; Sabiston et al., 2019; Sabiston et al., 2020), while negative evaluations of body fitness and physical abilities has been linked to undesirable sport experiences and outcomes, such as lower sport commitment and decreased engagement in physical activity (Crocker, Sabiston, Kowalski, McDonough, & Kowalski, 2006; deJonge, Mackowiak, Pila, Crocker, & Sabiston, 2019; Pila et al., 2020).

Females often report experiencing heightened levels of negative body-related self-conscious emotions, such as body-related shame and guilt (Else-Quest, Higgins, Allison, & Morton, 2012; Pila, Sabiston, Brunet, Castonguay, & O’Loughlin, 2015). The results from longitudinal research suggested that for adolescent females involved in sport, fitness and appearance body-related shame and guilt increased over a three year time span, while body-related pride decreased throughout the same time period (Pila et al., 2020; Sabiston et al., 2020). The experience of positive body-related self-conscious emotions among female athletes may facilitate engagement in physical activity and sport, while negative body-related emotions may lead to the avoidance of these exercise contexts (Pila et al., 2020; Sabiston et al., 2010).
Sabiston and colleagues (2010) found that self-conscious emotions predicted the quality of motivation associated with physical activity behaviours among females. Consistent with previous research, intrinsic and identified motivation predicted engagement in physical activity, but only experiences of pride promoted these forms of motivation (Sabiston et al., 2010). Additionally, shame and guilt were closely tied to external and introjected motivation (Sabiston et al., 2010). Identified and intrinsic motivation are considered more self-determined and autonomous forms of motivation compared to external and introjected motivation (Deci & Ryan, 2015). The emotion of envy may also influence motivational outcomes in sport (Pila et al., 2014). If an individual admires another’s skills then they may experience envy in the form of inspiration, which elicits identified motivation to engage in physical activity (Pila et al., 2014). However, envy may also be detrimental if the motivation to engage in physical activity comes from a desire to remove another individual from a superior position (Pila et al., 2014).

There is limited literature that connects embarrassment to physical activity outcomes, but recent research suggests that adolescents and young adults reported sport and physical activity settings as one of the primary contexts in which body-related embarrassment was experienced (Vani et al., 2020). Furthermore, adolescents experienced body-related embarrassment related to both the appearance and function of the body during aesthetic and non-aesthetic sports (Vani et al., 2020). Additionally, males reported less self-consciousness and were subsequently less likely to feel embarrassed in these contexts (Vani et al., 2020). These findings support work by James (2000) who conducted focus groups with 15 and 16-year-old female swimmers and found that the athletes cited embarrassment as one of the largest constraints to participation in their sport. The young females tended to have poor body image in the pool setting and felt embarrassment when exposing their body, which led to decreased participation in swimming (James, 2000).
Additionally, Corr and colleagues (2019) found that many adolescent females feel that it is impossible to look good while being active and this fear of being embarrassed hinders their desire to engage in physical activity. To support this finding, Vani and colleagues (2020) suggest that the fear of negative evaluation and body-related embarrassment may result in females avoiding physical activity settings.

Castonguay and colleagues (2013) have linked authentic and hubristic pride to body-related emotions and physical health outcomes. Body-related hubristic pride was defined as an evaluation of appearance and fitness as superior to others, with behaviours that are focused on showing off (Castonguay et al., 2013). Conversely, authentic pride is triggered by a desire to improve or maintain appearance in order to achieve goals and feel a sense of accomplishment (Castonguay et al., 2013). Researchers identified that both evaluations of appearance and physical functioning can elicit body-related pride and even suggested that targeting positive body-related pride may help promote mental and physical health (Castonguay et al., 2013). Recently, researchers have found that the experience of both hubristic and authentic fitness-related pride were associated with higher engagement in moderate to vigorous physical activity (Gilchrist et al., 2018; Mack, Kouali, Gilchrist, & Sabiston, 2015). Additionally, appearance and fitness-related self-conscious emotions have been found to be related to sport participation experiences, such as commitment and motivation (Pila et al., 2020; Sabiston et al., 2010). Pila and colleagues (2020) reported that higher fitness-related pride is associated with higher sport commitment in adolescent females, which suggests that encouraging fitness-related pride rather than appearance-related pride may promote physical activity engagement (Gilchrist et al., 2018).
2.4 Physical Self-Perceptions

Adolescence is marked by developmental transitions, physical changes, cognitive-developmental advances and changing societal expectations which significantly influence perceptions of the self (Harter, 1999). Self-perceptions can be defined as, “individuals’ beliefs, perceptions, attitudes, thoughts, and feelings about themselves in general or about their abilities, skills, competencies, characteristics, and behaviours” (Horn, 2004, p. 102). As a result, the impact of self-perceptions is apparent in health-related behaviours, such as weight management, coping, self-presentational strategies, and exercise and sport participation among adolescents (Crocker et al., 2003; Crocker et al., 2006; Fox, 1997). These perceptions about the self are formed through experience with the environment and influence from significant others (Shavelson, Hubner, & Stanton, 1976). Self-perceptions are thought to influence the way one acts, which in turn influences how one perceives the self (Shavelson et al., 1976). In this way, self-perceptions are evaluative; an individual develops a perception of the self in a particular situation and also forms evaluations of the self in these situations (Shavelson et al., 1976). Evaluations can be made in comparison to the ideal, to relative standards, or to perceived evaluations from significant others (Harter, 1999; Shavelson et al., 1976). Within the literature, a variety of more specific terms have been used to describe particular aspects of the self, such as self-concept, self-esteem and perceived competence (Harter, 1999; Horn, 2004).

2.4.1 Physical Self-Concept

Fox (1997) defines self-concept as, “a self-description profile based on the multitude of roles and attributes that we consider make up our self” (p. xii). Self-concept has been conceptualized as a multifaceted structure that forms a hierarchy from general self-concept or self-esteem to more specific individual experiences in a particular context (Fox & Corbin, 1989;
Shavelson et al., 1976). In a hierarchical model, each domain can be further differentiated into subdomains, facets and subfacets, with the lower levels denoting greater differentiation and specificity (Crocker et al., 2008). Additionally, it is often more beneficial to examine the relationship between behaviours or cognitions and the subdomains of the self rather than the entire global construct (Crocker et al., 2008). The development of various multidimensional models of self-concept has enhanced the understanding of the associations between physical self-concept and health-related behaviours and emotions, which will be a focus of this thesis (Crocker et al., 2006).

Although there are various hierarchical models of the self, Shavelson and colleagues (1976) proposed that general self-concept is at the top of the hierarchy and divides into academic self-concept and non-academic self-concept (Shavelson et al., 1976). The latter further differentiates into social, emotional and physical self-concept (Marsh & Shavelson, 1985; Shavelson et al., 1976). Physical self-concept has been defined as the mental picture people hold about the appearance and capabilities of the body (Fox, 1997), and it has been conceptualized into two categories: physical ability (competence) and physical appearance (Babic et al., 2014; Shavelson et al., 1976). Fox and Corbin’s (1989) model of the physical-self was based on Shavelson and colleagues (1976) work and suggests that self-esteem is the global level construct. Self-esteem then differentiates into physical self-worth, which further separates into subdomains such as perceived sports competence, perceived bodily attractiveness, perceived physical strength and perceived physical conditioning (Fox & Corbin, 1989). This model denotes that the structure and content of one’s self-esteem creates physical self-perceptions which then predict physical activity involvement (Fox & Corbin, 1989). Marsh and Redmayne (1994) provided supported for Fox and Corbin’s (1989) multidimensional and hierarchical physical self-concept
construct, but noted a need for more than four subdomains. The model developed by Marsh and colleagues includes 11 facets of physical self-concept: health, coordination, activity, body fat, sport competence, general physical self-concept, appearance, strength, flexibility, endurance and self-esteem (Marsh, Richards, Johnson, Roche, & Tremayne, 1994). The existing literature examining these models suggests that the specific subdomains of the physical self are all related to a number of health-related behaviours and emotions, such as physical activity and sport participation (Crocker et al., 2006; Crocker et al., 2008).

2.4.1.1 Physical Self-Concept and Sport

A large systematic review and meta-analysis on 64 studies examining physical activity and physical self-concept indicated that adolescents with strong perceptions of physical self-concept were more likely to engage in physical activity, such as sport, than those with low physical self-perceptions (Babic et al., 2014). However, it was not clear if high physical self-concept led to participation or if those with high physical self-concept were simply more likely to participate in sport (Babic et al., 2014). Further research suggests that the relationship between physical self-concept and physical activity is in fact bidirectional (Crocker et al., 2008). This implies that individuals with a high physical self-concept are more likely to participate in sport, and that participating in sport also creates higher physical self-perceptions, which leads to an increase in participation of future physical activity (Crocker et al., 2008; Donaldson & Ronan, 2006). Additionally, low physical self-perceptions decreases the desire to engage in exercise and eliminates the opportunity to develop positive physical self-concept (Crocker et al., 2008). Further research suggested that sport type and competitive level may influence the relationship between physical self-concept and sport participation (Findlay & Bowker, 2009; Slutzky & Simpkins, 2009). Adolescent athletes competing in competitive and elite level sports tend to
have higher physical self-concept than adolescents participating in sport at a recreational level or not participating at all (Findlay & Bowker, 2009; Klein, Fröhlich, & Emrich, 2017). Furthermore, participation in team sports can create a stronger physical self-concept in youth athletes in comparison to individual sports (Slutzky & Simpkins, 2009). Overall, research suggests that when an individual has a positive perception of their physical self-concept, they are more likely to engage in physical activity behaviours, thus it is important to understand physical self-concept and the connection to health-related behaviours and emotions among adolescent athletes (Crocker et al., 2008).

2.4.1.2 Physical Self-Concept and Body-Related Emotions in Sport

Females tend to have more negative body image issues and greater body dissatisfaction than their male counterparts, and this trend is heightened during adolescence (Abbott & Barber, 2011; O’Dea, 2006). This body dissatisfaction extends into the sport context and is associated with poor physical self-perceptions among adolescent females, and subsequently lower physical activity levels (Crocker et al., 2008; O’Dea, 2006). Thomsen, Bower, and Barnes (2004) found that female volleyball players between the ages of 14 and 18 divided their physical self-concept into two components; the first aspect was focused on physical abilities and athletic competence, while the second component was influenced by social comparisons and evaluations of physical size and body parts. These two dimensions created dissonance as athletes struggled to balance athleticism and femininity. Crocker and colleagues (2013) found significant relationships between shame and guilt proneness and physical self-concept, which indicated that physical self-concept may be an important factor in predicting body-related emotions. Furthermore, longitudinal findings indicated that physical self-perceptions predicted physical activity levels, social physique anxiety and dietary restraint, plus had a strong impact on future engagement in
physical activity (Crocker et al., 2006). Findings from recent research on adolescent female athletes revealed a significant relationship between sport commitment and physical self-concept, such that improving an athlete’s physical self-concept would likely also increase sport commitment (deJonge et al., 2019). Overall, researchers have demonstrated that physical self-perceptions can predict physical activity participation in female populations and by encouraging a strong physical self-concept at a young age, females will be more likely to engage in physical activities such as sport (Babic et al., 2014; Crocker, Eklund, & Kowalski, 2000).

2.4.2 Perceived Athletic Competence

An alternative way to examine the physical self is to consider perceptions of physical or athletic competence (Harter, 1982, 2012; Weiss & Williams, 2004). Perceived athletic ability (or competence) is considered to be a dominant predictor of physical activity behaviours; thus, it is widely studied in physical activity and sport settings (Babic et al., 2014; Crocker et al., 2008). Harter (2012) defined athletic competence as the perceptions of “one’s ability to do well at sports including outdoor games, and demonstrating one’s athletic prowess” (p. 4). Therefore, perceived athletic competence is specific to sports and physically active games, and excludes general physical activity (Baker & Davison, 2011). If an individual feels they are competent at an activity, such as sport, then they will be more likely to enjoy the activity and continue to engage in that behaviour (Allen & Howe, 1998; Harter, 1982).

Perceived athletic competence is important to address in athlete populations as it has been tied to physical activity outcomes, such as sport participation (Baker & Davison, 2011). Among adolescent athletes, low perceived competence is often cited as a barrier to participation in physical activity (Corr et al., 2019). Specifically, it is important to address among female adolescent athletes as this population reports lower levels of perceived athletic competence in
comparison to their male counterparts (Baker & Davison, 2011; Ridgers, Fazey, & Fairclough, 2007; Trew, Scully, & Kramer, 1999). Males are more likely than females to consider themselves physically competent and acquire a greater sense of self-worth from activities such as sport (Crocker et al., 2000; Sabiston & Crocker, 2008; Trew et al., 1999). Trew and colleagues (1999) found that adolescent males who spent time participating in sport reported higher perceptions of athletic competence and global self in comparison to female athletes. This disparity becomes apparent in adolescence as Baker and Davison (2011) noted that there was a significant decline in perceived athletic competence among females when tested at the age of 11 and then again at 13. Additionally, adolescent females with low perceived competence describe lower levels of motivation to engage in physical activity and sport (Corr et al., 2019). However, males that participate in sport also show higher levels of physical competence in comparison to their sedentary peers which suggests that participation in physical activity, such as sport, may increase perceptions of athletic competence (Trew et al., 1999).

2.4.2.1 Perceived Athletic Competence and Sport Experiences

Perceived athletic competence is related to positive physical activity experiences because these perceptions are thought to assist in increasing enjoyment as well as the motivation to continue to participate in physical activity (Baker & Davison, 2011; Klint & Weiss, 1987; Weiss, Kimmel, & Alan, 2001). Athletes who perceive themselves as competent at their sport are more likely to continue to participate than those who perceive themselves as incompetent (Klint & Weiss, 1987). This relationship is often influenced by affective experiences, such that positive and negative emotions impact the relationship between perceived competence and participation (Casey et al., 2009; Weiss & Ferrer-Caja, 2002). Perceived competence can increase positive affective experiences, such as pride, enjoyment and happiness, and these positive affective states
lead to more motivation to participate in physical activity (Casey et al., 2009; Castonguay et al.,
2013). Conversely, perceived incompetence can elicit feelings of shame and social anxiety,
which often leads to a decrease in an individual’s desire to participate in sport (Casey et al.,
2009; Ridgers et al., 2007).

Participation in sport also allows athletes to demonstrate and improve skills, thus
increasing their perceived athletic competence and further enhancing their desire to continue to
participate in physical activities (Aşçi, Koşar, & İşler, 2001; Crocker et al., 2006; Klint & Weiss,
1987). Social agents, such as parents, coaches, peers, and teammates are important contributors
in improving an athlete’s perceived competence (Weiss & Williams, 2004). Parents are
important sources for younger children in terms of athletic ability, while peers and coaches are
bigger influences on perceived competence during adolescence (Weiss & Williams, 2004).
Additionally, it is especially important for social agents to encourage perceptions of athletic
competence among adolescent females who participate in only aesthetic sports as these sports
tend to elicit lower levels of perceived athletic competence (Baker & Davison, 2011). Promoting
physical competence within an athlete will aid in the athlete’s development of a physical identity
that does not focus entirely on body shape and size (Beltrán-Carrillo, Devís-Devís, & Peiró-
Velert, 2018). There are a variety of other personal and environmental factors that may impact
feelings of athletic competence, such as perceived effort, speed of learning new skills, feelings of
nervousness, social evaluation or comparison and various performance-based criteria, such as
winning or losing a game (Weiss, Ebbeck, & Horn, 1997).

Overall, researchers have stressed the importance of understanding the outcomes related
to varying levels of physical self-perceptions, as well as the factors that impact physical self-
perceptions (Crocker et al., 2006). This knowledge will assist in encouraging positive physical
self-perceptions among adolescent females in order to promote positive health-related behaviours, such as participation in physical activity and sport (Crocker et al., 2006). In recent qualitative work it appears that physical self-perceptions may influence the relationship between body-related self-conscious emotions and motivational sport experiences among adolescent females (Sabiston & Pila, 2016). Sabiston and Pila (2016) interviewed 12 adolescent females who had disengaged from a sport regarding their reasons for ending participation, concerns around appearance and fitness body-related emotions in sport. They reported that participants who discussed feeling negative body-related emotions did not necessarily have poor sport experiences, if they also described being “good” at their sport. This suggests that high physical self-perceptions may protect young females from the negative sport experiences and outcomes that occur as a result of negative body-related emotions (Sabiston & Pila, 2016). However, there has not been any further published research examining the moderating influence of physical self-perception on the relationships between body-related self-conscious emotions and key motivational sport experiences such as motivation, commitment and enjoyment.

2.5 Assessing Sport Participation

To assess and measure the likelihood of individuals continuing to engage in sport, researchers have examined numerous motivational sport experiences including sport commitment, sport enjoyment and sport motivation (e.g., Frederick-Recascino, 2002; Hall, Newland, Newton, Podlong, & Baucom, 2017; McCarthy, Jones, & Clark-Carter, 2008; Pelletier, Rocchi, Vallerland, Deci, & Ryan, 2013; Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993a; Weiss & Weiss, 2006). Examining these constructs may help researchers better understand the various factors and obstacles involved in an individual’s choice to continue to participate in sport.
2.5.1 Sport Motivation

Motivation is often defined as a force that energizes and directs achievement behaviour, and it provides theoretical insight into why an individual initiates, regulates, sustains, directs and discontinues certain behaviours (Clancy, Herring, & Campbell, 2017; Roberts, Treasure, & Conroy, 2007). Considerable research has sought to understand the motivating forces that explain why some athletes display an enduring desire to persist with their sport while others lose interest and drop out (Pelletier et al., 2013). Many factors have been tied to sport motivation, such as social agents, gender, activity type, age, body-related emotions and physical self-perceptions (Crocker et al., 2008; Frederick-Recascino, 2002; Sabiston et al., 2010; Teixeira, Carraca, Markland, Silva, & Ryan, 2012). Societal influences often contribute to different motives for males and females; females show more appearance and fitness related motives for sport and physical activity, while males often have higher competence motives (Frederick-Recascino, 2002). Allen (2003) also found that adolescent females were motivated to participate in sport by social factors, such as developing relationships with others, feeling a sense of belonging, achieving a higher social status, and social recognition from others. Furthermore, for females, a greater level of body appreciation significantly predicts higher intrinsic motivation to engage in physical activity (Cox, Ullrich-French, Tylka, & McMahon, 2019). An athlete’s age can also impact the factors that drive sport motivation; young athletes experience more intrinsic motives, such as fun and enjoyment, while adolescents experience more extrinsic motivators related to physical activity and sport participation, such as stress relief and weight control (Frederick-Recascino, 2002).

Body-related emotions and physical self-perceptions have also been tied to physical activity motivation and behaviours (Brunet & Sabiston, 2008; Mack et al., 2015; Rottensteiner,
Tolvanen, Laakso, & Konttinen, 2015; Sabiston et al., 2010). Social physique anxiety negatively influences feelings of autonomy and relatedness, which leads to a decrease in motivation to participate in physical activity (Brunet & Sabiston, 2008). Additionally, when a female feels she has not attained the ideal body type, she may experience shame or guilt, which in turn motivates physical activity participation to either satisfy external demands or to avoid feeling guilt or shame (Deci & Ryan, 2002; Sabiston et al., 2010). Alternatively, achieving the perceived ideal body elicits positive body-related emotions, which creates identified and intrinsic motives for participation; the individual engages in the activity because the benefits are deemed important, or for pure enjoyment and interest (Deci & Ryan, 2002; Sabiston et al., 2010). Additionally, the body-related emotion of pride has also been linked to motivation as both hubristic and authentic fitness-related pride demonstrate positive associations with autonomous regulations, such as intrinsic motivation, which leads to adaptive physical activity behaviours (Mack et al., 2015).

2.5.1.1 Self-Determination Theory (SDT)

Various theoretical frameworks have been used to understand the factors that influence the motivation to participate in sport, but Self-Determination Theory (SDT) offers a comprehensive framework to predict sport participation (Adie, Duda, & Ntoumanis, 2008; Frederick-Recascino, 2002; Ryan & Deci, 2017; Teixeira et al., 2012). According to SDT, social environments have the power to increase or undermine motivation, which impacts whether an individual will choose to persist in a particular activity (Ryan & Deci, 2017; Ullrich-French & Smith, 2009). Deci and Ryan (2002, 2015) state that there are three basic psychological needs that classify an environment as being supportive or thwarting to development; these three fundamental needs include competence, relatedness and autonomy (Deci & Ryan, 2002). Competence is one’s sense of confidence and it refers to feeling effective in one’s interaction
with the environment (Deci & Ryan, 2002). Relatedness refers to feeling connected to others, cared for, and a sense of belongingness to one’s community or team (Deci & Ryan, 2002). Lastly, autonomy refers to the perception that one is in control of their choices and feeling that one’s behaviour is an expression of the self (Deci & Ryan, 2002).

When an individual perceives that their need for competence, autonomy and relatedness is being met, they are more likely to internalize and integrate ongoing behavioural regulations (Pelletier et al., 2013; Ryan, 1995). This internalization of behaviours is viewed as a continuum of autonomy that suggests that the more that a behaviour is internalized, the more it will be carried out autonomously (Deci & Ryan, 2015). The least autonomous form of motivation is amotivation, which is the state of lacking the intention to act (Deci & Ryan, 2002). It is usually caused by feelings of perceived incompetence or an activity with undesirable outcomes (Deci & Ryan, 2015). This is followed by four types of extrinsic motivation that reflect various states of internalization (Deci & Ryan, 2015). External regulation is the least autonomous form of extrinsic motivation in which an individual is motivated to either obtain rewards or avoid punishment (Deci & Ryan, 2015). This is followed by introjected regulation, which is when an external regulation is partially internalized, but is not yet part of the integrated self (Deci & Ryan, 2002). Individuals may be motivated by contingent self-esteem, guilt, or ego-involvement (Deci & Ryan, 2015). A more internalized form of motivation is identified motivation because it requires the individual to classify the behaviour as important and personally valuable (Deci & Ryan, 2015). Lastly, integrated regulation is elicited when identified behaviours have been evaluated and become part of one’s existing personal values, goals, and needs (Deci & Ryan, 2002). An individual with integrated regulation acts with volition and choice, thus it is the most autonomous form of extrinsic motivation (Deci & Ryan, 2015). The continuum ends with...
intrinsic motivation, which is when an individual is engaging in an activity because they find it interesting, enjoyable or fun (Deci & Ryan, 2015). In other words, intrinsic motivation is, “based in the inherent satisfactions of the behaviours… rather than in contingencies or reinforcements [extrinsic motivation] that are operationally separable from those activities” (Deci & Ryan, 2002, p. 10).

The more autonomous types of motivation, such as intrinsic motivation, have been associated with a number of positive experiences and outcomes. For example, if an athlete experiences intrinsic motivation, they will feel greater levels of enjoyment, personal accomplishment and excitement and feel more inclined to persist with that particular activity (Deci & Ryan, 2017; Teixeira et al., 2012). However, a variety of social-contextual extrinsic factors that exist in sport contexts, such as rewards, pressure, negative feedback, and controlling climates, have the potential to undermine intrinsic motivation and subsequently decrease levels of enjoyment and commitment (Ryan & Deci, 2017). When athletes experience intrinsic motivation, they gain choice in their behaviour and are at an optimal level of challenge, thus their needs for autonomy and competence are satisfied, which yields better sport experiences (Frederick-Recascino, 2002; Pelletier et al., 2013). Rottensteiner and colleagues (2015) found that adolescent athletes who had high levels of perceived competence were also more likely to experience higher levels of autonomous motivation and thus show greater persistence within a sport setting. Conversely, athletes who experience a reduction in competence and relatedness may subsequently display an increase in need frustration and amotivation, which could lead to sport dropout (Pulido, Sánchez-Oliva, Sánchez-Miguel, Amado, & García-Calvo, 2018). Overall, the fulfillment of the basic psychological needs leads to an increase in more autonomous forms
of motivation, which may lead to better experiences and outcomes in sport contexts (Pelletier et al., 2013).

### 2.5.2 Sport Commitment

Sport commitment is defined as, “a psychological state representing the desire or resolve to continue sport participation,” and it acts as a motivational force to continue involvement in sport (Scanlan et al., 1993a, p. 1). Current research findings suggest that task-involving and supportive environments help to promote sport commitment by increasing sport enjoyment, perceptions of social support from significant others, and personal investments of time and effort (Carpenter, Scanlan, Simons, & Lobel, 1993; Hall et al., 2017; Scanlan, Russell, Scanlan, Klunchoo, & Chow, 2013). Physical self-perceptions as well as fitness and appearance self-conscious emotions impact sport commitment (deJonge et al., 2019; Pila et al., 2020).

Additionally, athletes who experience shame and guilt may report less sport commitment and enjoyment (Pila et al., 2020). Conversely, athletes who experience fitness and appearance body-related authentic and hubristic pride often report higher sport commitment and enjoyment (Pila et al., 2020). Examining positive and negative body-related emotions in adolescent female populations could help to understand the factors that lead to a decrease in sport commitment and subsequently to a decline in sport participation (Pila et al., 2020).

Researchers have attempted to distinguish between various types of sport commitment. Recently, Scanlan and colleagues have proposed two key types: enthusiastic and constrained sport commitment (Scanlan, Chow, Sousa, Scanlan, & Knifsend, 2016). Enthusiastic commitment denotes the “want to” aspects of commitment in which an athlete chooses to commit to sport because it is enjoyable and desirable (Scanlan, Russel, Magyar, & Scanlan, 2009). Enthusiastic commitment captures the psychological attachment to sport, the willingness
to play for as long as possible and to overcome obstacles to sport participation (Scanlan et al., 1993a; Scanlan et al., 2016). Conversely, constrained commitment represents the “have to” aspects of sport commitment, in which an athlete feels they must participate in a sport due to internal or external demands (Scanlan et al., 2009; Scanlan et al., 2016). This form of commitment emphasizes feeling obligated or forced to continue to participate, feeling trapped in a sport, and the belief that it is necessary to stay in sport (Scanlan et al., 2016).

Although both forms of commitment exist within a sport context, previous research suggests that it is commonly the “want to” dimension of commitment that is related to exercise behaviour and the intention to continue in sport (Gabriele, Gill, & Adams, 2011; O’Neil & Hodge, 2019; Wilson et al., 2004). Adolescent female athletes who perceived a high level of attracted commitment (similar to enthusiastic commitment) were more likely to be committed to their sport than those that felt entrapped commitment (similar to constrained commitment; Weiss & Weiss, 2006). Athletes who experience enthusiastic commitment have a greater level of enjoyment, which subsequently creates a greater desire and resolve to continue to participate in physical activity behaviours such as sport (Weiss & Weiss, 2006). Additionally, research findings have indicated that enthusiastic commitment may have a more meaningful impact on an athlete’s intention to continue with sport than autonomous motivation; this may indicate that high levels of self-determined motivation may not lead to continued sport participation unless an athlete experiences enthusiastic commitment (O’Neil & Hodge, 2019). Lastly, although body-related emotions and physical self-perceptions have been found to be related to sport commitment, the subtypes of enthusiastic and constrained commitment have yet to be examined in relation to these constructs (deJonge et al., 2019; Pila et al., 2020).
2.5.3 Sport Enjoyment

Sport enjoyment is defined as, “a positive affective response to the sport experience that reflects generalized feelings, such as pleasure, liking and fun” (Scanlan et al., 1993a, p. 6). Individuals primarily participate in physical activities, such as sport, for intrinsic reasons such as enjoyment or attraction to the activity (Weiss & Ferrer-Caja, 2002). Therefore, enjoyment is consistently a primary motive for sport participation within youth, with a lack of enjoyment leading to sport dropout (Scanlan et al., 1993a; Shaffer & Wittes, 2006; Weiss & Williams, 2004). Furthermore, some researchers argue that sport enjoyment significantly influences sport motivation and sport commitment (Scanlan et al., 1993a; Scanlan, Carpenter, Lobel, & Simmons, 1993b; Weiss & Aloe, 2018).

Researchers have extensively examined the various sources and factors that lead to sport enjoyment for youth and adolescent populations (Keegan, Harwood, Spray, & Lavallee, 2009; McCarthy et al., 2008; Scanlan et al., 1993b; Wiersma, 2001). As a result, many socio-contextual and individual factors that are related to enjoyment have been identified, such as supportive social influences, feelings of autonomy, goal orientations, involvement opportunities, and perceptions of competence (Weiss, 1993; Weiss & Aloe, 2018; Weiss, Amorose, & Wilko, 2009). McCarthy et al. (2008) found that adolescents experienced greater sport enjoyment when their sport competency was recognized by others. If an individual feels they are good at a particular activity, they will enjoy doing it and subsequently continue to participate in the activity (Weiss et al., 2009). As a result, enjoyment and perceptions of competence are central determinants of whether an individual will continue to participate in physical activity (Weiss et al., 2009). Additionally, when athletes perceive their environment as competitive, it creates enjoyment among youth athletes because it sparks achievement motivation, which subsequently
elicits positive associations with effort, learning and mastery (McCarthy et al., 2008; Scanlan et al., 1993b). Overall, sport enjoyment plays an important role in increasing sport commitment and motivation among adolescent athletes (Scanlan et al., 1993a, Scanlan et al., 1993b; Teixeira et al., 2012; Weiss & Aloe, 2018); thus, it is imperative to ensure sport settings promote enjoyment to encourage long-term sport participation.

2.6 Concluding Summary of Literature Review

It is evident that a decrease in sport commitment, enjoyment or motivation can negatively influence an athlete’s desire to continue to participate in sport (Frederick-Recascino, 2002; Pelletier et al., 2013; Scanlan et al., 1993a; Weiss & Aloe, 2018). Therefore, researchers have attempted to examine and address the various factors involved in sport environments that either encourage or deter sport enjoyment, motivation and commitment. Factors such as social comparisons, gender stereotypes, teasing, perceived incompetence and negative emotions have all been linked to negative physical activity and sport experiences among female adolescents (Casey et al., 2009; Howie et al., 2016; Slater & Tiggemann, 2011; Smolak, 2011). Additionally, physical self-perceptions and body-related self-conscious emotions have been linked to motivational sport experiences, such as enjoyment and commitment (deJonge et al., 2019; Pila et al., 2020; Sabiston & Pila, 2016). However, there is limited research that explores the relationship between appearance and fitness body-related emotions (i.e., shame, guilt, envy, embarrassment, pride, and social physique anxiety), and motivation, commitment and enjoyment (Sabiston et al., 2019). Researchers have noted that it is important to explore these fitness and appearance-related emotions as they may be targets for interventions designed to reduce poor sport experiences and subsequent sport dropout among adolescent females (Pila et al., 2020). Additionally, more quantitative research is needed to further examine the role of physical self-
perceptions on specific motivational sport experiences (deJonge et al., 2019) and the impact of physical self-perceptions on the relationship between body-related emotions and sport experiences. Therefore, this research sought to reduce the gaps in the current literature by further exploring the relationships between body-related self-conscious emotions, physical self-perceptions and motivational sport experiences.

2.7 Statement of Purpose and Hypotheses

This research examined the impact of body-related emotions and physical self-perceptions on motivational sport experiences. The purpose of the study was threefold:

1) To examine the relationship between negative and positive appearance and fitness body-related self-conscious emotions (i.e., shame, pride, guilt, envy, embarrassment, and social physique anxiety) and motivational sport experiences (i.e., motivation, commitment and enjoyment) among adolescent female athletes.

2) To examine the relationship between physical self-perceptions (i.e., physical self-concept and perceived athletic competence) and motivational sport experiences among adolescent female athletes.

3) To examine the moderating role of physical self-perceptions on the relationship between appearance and fitness body-related self-conscious emotions and motivational sport experiences among adolescent female athletes.

In line with previous research on body-related emotions and sport experiences, hubristic and authentic pride were considered positively valenced emotions, while shame, guilt, embarrassment, envy and social physique anxiety were classified as negatively valenced emotions. Based on previous research, it was hypothesized that:
1) Negative body-related emotions would be associated with negative motivational sport experiences (i.e., constrained commitment, controlled motivation and amotivation). Conversely, it was expected that positive body-related emotions would be related to positive motivational sport experiences (i.e., enjoyment, autonomous motivation and enthusiastic sport commitment).

2) Physical self-perceptions would be positively related to positive motivational sport experiences and negatively related to negative motivational sport experiences.

3) The relationship between the body-related self-conscious emotions and sport experiences would be moderated by physical self-perceptions, such that high perceptions of physical self-concept and perceived athletic competence would buffer the impact of negative body-related self-conscious emotions on motivational sport experiences.
Chapter 3: Methods

3.1 Participants

The final sample was comprised of 107 adolescent female athletes (\(M_{age} = 14.85, SD = 1.45\)) from the following sports: field hockey, soccer, ice hockey, dance, gymnastics, ultimate frisbee, indoor volleyball, beach volleyball, swimming, basketball, track and field, karate, synchronized swimming, and ringette. This research used purposive sampling by accessing gatekeepers, such as sport organizers and coaches from the Greater Vancouver Area and Greater Toronto Area. Originally, with nine predictor variables (shame, guilt, embarrassment, envy, authentic pride, hubristic pride, social physique anxiety, physical self-concept and perceived athletic competence), the required sample size of 270 was calculated using a conservative effect size (\(R^2 = 0.06\)), a power of 80% and a significance level of \(p < .05\). This also aligns with one general rule of thumb to include 20 to 30 participants per predictor (Green, 1991; Wilson VanVoorhis, & Morgan, 2007). The inclusion criteria required that participants were currently engaged in organized sport, able to read English at the grade five level, and were between the ages of 13 and 18 at the time of recruitment. Although athletes who were 18 were included, it was required that they were still attending secondary school and not attending university.

Research indicates that sport commitment changes from high school to university and this significant decrease in sport and physical activity is often due to residency and changes in psychosocial factors (Van Dyck, De Bourdeaudhuij, Deliens, & Deforche, 2015; Weiss, 2014), rather than issues stemming from within the sport. This study only focused on adolescent females because previous research findings indicate that this population tends to experience greater levels of body image issues within a physical activity context and tend to drop out of
physical activities, such as sport, at higher rates than males (Eime et al., 2013a; Sabiston et al., 2014).

### 3.2 Measures

The online survey for this study consisted of a demographics section and seven self-report measures to assess appearance and fitness related self-conscious emotions, social physique anxiety, physical self-concept, perceived athletic competence, sport motivation, sport commitment and sport enjoyment (see Appendix D). Demographic information was recorded on the first section of the questionnaire. This section asked participants for height, weight, age, academic grade, ethnic background, and the education level of both parents. The demographic section also asked participants to record the sport that they were recruited from, the name of the team they were recruited from and the number of years/months they had played the sport they were recruited from. Lastly, the demographics section asked participants to list the other sports they were currently playing or had played in the past year.

#### 3.2.1 Body-Related Self-Conscious Emotions

##### 3.2.1.1 Appearance-Related Self-Conscious Emotions:

The Body and Appearance Self-Conscious Emotions Scale (BASSES) provides a valid and reliable measure to assess body-related shame, guilt, authentic pride, and hubristic pride in body and appearance contexts (Castonguay, Sabiston, Crocker, & Mack, 2014). For the purpose of this study, 16-items were used from the BASSES (four from each subscale) and each item was scored on a five-point scale (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently, 5 = always). Participants indicated how often they generally experience the emotion presented in the statement within the sport context (e.g., ashamed of the way I look). Reliability coefficients for
the BASES scale range from 0.88 to 0.91 (Castonguay et al., 2014). For this study, Cronbach’s alphas ranged from 0.86 to 0.94 (Table 1).

3.2.1.2 Fitness-Related Self-Conscious Emotions:

The Body and Fitness-Related Self-Conscious Emotions Scale (BSE-FIT; Castonguay, et al., 2016) was designed to assess experiences of shame, guilt, authentic pride, and hubristic pride in a fitness context. Participants were asked to indicate how often, on average, they experience each self-conscious emotion while playing their sport (e.g., proud that I am a person who is fit). Each item was scored on a five-point Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently, 5 = always). Reliability coefficients for the original BSE-FIT scale range from 0.84 to 0.92 (Castonguay et al., 2016). For this study, Cronbach’s alphas ranged from 0.86 to 0.88 (Table 1).

3.2.1.3 Envy and Embarrassment:

Since neither the BASES or the BSE-FIT currently have validated items to assess envy and embarrassment, sixteen new items were added to assess appearance and fitness-related envy and embarrassment; eight for envy (e.g., envious about others’ fitness) and eight for embarrassment (e.g., foolish when my body and appearance are on display). The items were created by Sabiston and colleagues for research on Envy and Embarrassment that is currently in progress. The items were all scored on the same five-point scale as the BASES and the BSE-FIT. For this study, Cronbach’s alphas ranged from 0.81 to 0.87 (Table 1).

3.2.2 Social Physique Anxiety

Social physique anxiety was measured using a modified version of the Social Physique Anxiety Scale (SPAS; Fletcher & Crocker, 2014). The original 12-item scale comprised of statements to assess the factors of physique presentation comfort and expectations of negative
physique evaluation (Hart et al., 1989). However, researchers found that a core set of four items can be used, instead of the entire 12-item scale (Fletcher & Crocker, 2014). This shortened version has similar measurement properties and reduces the time commitment for the participants (Fletcher & Crocker, 2014). For the purpose of this study, the words “in my sport” were added to the end of each statement to remind the participants to answer each statement within the context of their respective sport. Additionally, a fifth item was added (“It would make me uncomfortable to know others were evaluating my physique/figure in my sport”). This statement was found to be biased towards females, thus appropriate for the population of interest in this study (Fletcher & Crocker, 2014). Participants were asked to indicate how characteristic the statement was of them according to a five-point Likert scale (1 = not at all characteristic of me, 2 = slightly characteristic of me, 3 = moderately characteristic of me, 4 = very characteristic of me, 5 = extremely characteristic of me). Item three was inversely scored and lower scores indicated higher social physique anxiety. The reliability of the 4-item modified scale was 0.79 (Fletcher & Crocker, 2014). For this study, the Cronbach’s alpha was 0.85 (Table 1).

3.2.3 Physical Self-Perceptions

3.2.3.1 Physical Self-Concept:

To measure physical self-concept, the Global Physical Self-Concept subscale from the original Physical Self-Description Questionnaire was used (PSDQ; Marsh et al., 1994). This subscale contains six items from the original 70 item measure to assess global physical self-concept (e.g., physically, I am happy with myself). Participants were asked to indicate how much they agreed with the statements on a six-point scale (1 = false, 2 = mostly false, 3 = more false than true, 4 = more false than true, 5 = mostly true, 6 = true). The score for global physical self-concept was found by averaging the responses to the six items in the subscale. Reliability
coefficients from the original Global Physical Self-Concept subscale range from 0.88 to 0.96 (Marsh et al., 1994). For this study, the Cronbach’s alpha was 0.96 (Table 1).

3.2.3.2 Perceived Athletic Competence:

Perceived athletic competence was assessed using the perceived competence subscale of the Intrinsic Motivation Inventory (McAuley, Duncan, & Tammen, 1989; Ryan, 1982). This scale was chosen instead of other options because it uses a similar Likert type format to that of the other questionnaires, which ensures consistency throughout the questionnaire. The psychometric properties of the Intrinsic Motivation Inventory have been assessed in a sport setting and researchers found that the complete subscale was reliable (McAuley et al., 1989). Additionally, because all of the items in this scale are generically worded, the activity/task of interest is able to be substituted into the item structure (McAuley et al., 1989). Therefore, the six items were adapted to reflect athletic competence in sport, with participants being asked to use a seven-point scale to answer how true the statement was to them (e.g., I think I am pretty good at my sport; 1 = not at all true, 4 = somewhat true, 7 = very true). All items were positively scored except for item six which was reverse scored. The average of the items was the score for perceived competence. The reliability of the perceived athletic competence subscale has been reported as 0.80 (McAuley et al., 1989). For this study, the Cronbach’s alpha was 0.90 (Table 1).

3.2.4 Sport Motivation

Sport motivation was measured using the second version of the Sport Motivation Scale (SMS-II; Pelletier et al., 2013). This scale was appropriate for the study because it has been validated on young female populations and captures behavioural regulations (Pelletier et al., 2013). The SMS-II includes 18 items and is designed to measure amotivation, and external, introjected, identified, integrated and intrinsic motivation (Clancy et al., 2017; Pelletier et al.,
Participants were asked to indicate how much each item corresponded to one of the reasons for which they were currently practicing and playing their sport (e.g., because I would not feel worthwhile if I did not). The items were scored on a seven-point Likert-type scale (1 = does not correspond at all, 2 = corresponds very little, 3 = corresponds a little, 4 = corresponds moderately, 5 = corresponds quite a bit, 6 = corresponds quite a lot, 7 = corresponds completely).

As suggested by L. Pelletier (personal communication, January 22, 2020), scores for amotivation, controlled motivation and autonomous motivation were calculated for each participant. The six items measuring external and introjected motivation (three items each) were summed to create a score for controlled motivation. The nine items for identified, integrated and intrinsic motivation (three items each) were summed to create a score for autonomous motivation. Reliability coefficients for the subscales of the SMS-II range from 0.70 to 0.88 (Pelletier et al., 2013). For this study, Cronbach’s alphas ranged from 0.73 to 0.91 (Table 1).

### 3.2.5 Sport Commitment and Enjoyment

Sport commitment and sport enjoyment were measured using a sample of items from the Sport Commitment Questionnaire (SCQ-2; Scanlan et al., 2016). This measure captures enthusiastic and constrained commitment as well as sport enjoyment, and it has been tested in adolescent athletes across a wide array of sports (Scanlan et al., 2016). Therefore, this study selected four items to measure enthusiastic commitment (e.g., I am dedicated to keep playing this sport), four items to measure constrained commitment (e.g., I feel trapped in this sport) and five items to measure sport enjoyment (e.g., playing this sport makes me happy). Participants were asked to indicate the number that corresponded to how much they agreed with the statement using a five-point Likert scale (1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree or disagree, 4 = somewhat agree, 5 = strongly agree; Scanlan et al., 2016). The reliability for
enthusiastic commitment, constrained commitment and enjoyment has been reported as 0.92, 0.78, and 0.92 respectively (Scanlan et al., 2016). For this study, the Cronbach’s alphas ranged from 0.84 to 0.88 (Table 1).

3.3 Procedure

Ethical approval for this study was obtained from the University of British Columbia Research Ethics Board prior to data collection. Sport organizers and coaches were contacted via email and provided with information about the research (see Appendix C). If the sport organizer or coach was interested in having their team or organization participate, they permitted a researcher to attend a sport session to present a brief summary of the study to potential participants. Prior to attending a practice session, the researcher provided the coach with an email to send to parents and players to inform them of the recruitment session and provide them with the parental consent form (see Appendix A) and the participant assent form (see Appendix B). After a brief presentation of the research, athletes were given hard copies of the participant assent form and the parental consent form. The participant assent form provided information to the participant and clearly stated that completion of the online questionnaire indicated their assent to participate in the study. The parental consent form required a signature from the participant’s legal guardian. The participant was also asked to provide their email address on this form as well as their signature to indicate assent to be contacted using that email. This form also asked for the participant’s contact information, which was used to inform the individual if they were one of the 10 participants selected to receive a gift card.

Participants either returned the parental consent form to the coach for the researcher to collect at a later date, or returned the form directly to the researcher by email or mail. Once parental consent was obtained, participants were contacted by email and given the link and
password to the online Qualtrics survey. The survey took approximately 15 to 30 minutes to complete and started with a brief overview of the study followed by the demographics section and seven questionnaires. After data collection was complete, five forms were randomly chosen, and the selected participants were contacted and informed that they had won a $25 gift card to SportChek. The gift cards were then mailed to the participants.

3.4 Data Analysis

3.4.1 Data Screening

Data were first screened for missing data points to determine if the missing data were random or systematic. Within-person median imputation was used to replace missing items. The data were screened for normality using normal Q-Q plots, skewness and kurtosis values and histograms. A priori it was decided that data that was not normal would be re-examined or transformed. Scale reliability was obtained using Cronbach’s alpha, as well as descriptive statistics (mean, standard deviation, skewness, and kurtosis). Additionally, linearity, multicollinearity, normality, independence of residuals, and homoscedasticity were examined to assess if the data conformed to assumptions of multiple linear regression. Furthermore, the data were analyzed for outliers using box-plots.

3.4.2 Inferential Data Analysis

Data analysis was planned according to the research questions and hypotheses. First, the relationship between body-related emotions and motivational sport experiences was examined using Pearson correlation values. Then, stepwise regressions were conducted using the body-related emotions as the predictors to determine the emotion(s) that best predicted the specific sport experience. Second, the relationship between physical self-perceptions and motivational sport experiences was examined using Pearson correlations. Third, moderated regression
analyses were conducted using physical self-perceptions as the moderator in each of the models created from the stepwise regressions. For all of the analyses, $p < .05$ was the criteria used to determine statistical significance.
Chapter 4: Results

4.1 Data Screening

Before beginning analysis, the data were screened for missing data points, normality and outliers. Participants missing more than one entire scale \((n = 3)\) were deleted from the dataset in order to abide by the ethics protocol. For the remaining 107 participants, within-person median replacement was used within each specific scale to replace the random missing values for participants who were missing individual items \((n = 13)\). The data were screened for normality using normal Q-Q plots, skewness and kurtosis values, and histograms. All data appeared relatively normal based on the Q-Q plots. However, the skewness and kurtosis values indicated issues with amotivation, enjoyment, enthusiastic sport commitment and perceived athletic competence (Table 1); thus, histograms were used to further examine the normality of these variables. Amotivation was positively skewed (Figure 1) with 74.5% of the scores being 5/21 or lower. Enjoyment, enthusiastic sport commitment and perceived athletic competence were negatively skewed (Figure 2, 3 and 4), with 73.8% of the participants scoring 22/25 or higher on the enjoyment scale, 72.8% of participants scoring 16/20 or higher on the enthusiastic sport commitment scale, and 72.7% of participants scoring 30/42 or higher on the perceived athletic competence scale. Perceived athletic competence and enthusiastic sport commitment were only slightly skewed, so no transformations were completed. However, due to the normality issues with the sport enjoyment and amotivation scales, these two variables were not examined in the formal data analysis. The data were analyzed for outliers using box-plots. In total, there were 12 scores that were considered outliers and eight of the participants had outlying scores on one or
more of the scales. Outliers were examined for data entry errors, but since none of the values appeared to be atypical responses, they were included in the data analysis.

Table 1: Summary of descriptive statistics

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<th>Score Range</th>
<th>M</th>
<th>SD</th>
<th>Skewness (SE=.23)</th>
<th>Kurtosis (SE=.46)</th>
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<td>F-Embarrassment</td>
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<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Perceived Athletic Competence</td>
<td>9-42</td>
<td>32.46</td>
<td>6.29</td>
<td>-1.081</td>
<td>1.938</td>
</tr>
<tr>
<td>Physical Self-Concept</td>
<td>6-36</td>
<td>26.72</td>
<td>7.07</td>
<td>-.724</td>
<td>.020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Motivational Sport Experiences</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amotivation</td>
<td>3-18</td>
<td>5.85</td>
<td>3.59</td>
<td>1.484</td>
<td>1.804</td>
</tr>
<tr>
<td>Autonomous Motivation</td>
<td>16-63</td>
<td>44.51</td>
<td>10.43</td>
<td>-.312</td>
<td>-.314</td>
</tr>
<tr>
<td>Controlled Motivation</td>
<td>6-37</td>
<td>20.36</td>
<td>6.59</td>
<td>.313</td>
<td>-.341</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>12-25</td>
<td>23.10</td>
<td>2.76</td>
<td>-1.652</td>
<td>2.717</td>
</tr>
<tr>
<td>Constrained Commitment</td>
<td>4-20</td>
<td>8.12</td>
<td>4.28</td>
<td>.783</td>
<td>-.520</td>
</tr>
<tr>
<td>Enthusiastic Commitment</td>
<td>7-20</td>
<td>16.98</td>
<td>3.04</td>
<td>-1.144</td>
<td>.859</td>
</tr>
</tbody>
</table>

*Note. F indicates a fitness-related emotion while A indicates an appearance-related emotion.*
Figure 1. Histogram of amotivation scale scores.

Figure 2. Histogram of sport enjoyment scale scores.
Figure 3. Histogram of enthusiastic sport commitment scale scores.

Figure 4. Histogram of perceived athletic competence scale scores.
4.2 Demographics

In total, 29 organizations participated in the research and approximately 1050 athletes were presented with the opportunity to complete the online survey. The participants ranged in age from 12 to 18 years, with a mean age of 14.85, and the majority of the athletes described their ethnic background as White/Caucasian (60.7% of the sample). The athletes were recruited from 13 different sports at both the recreational and the competitive level (Table 2). A total of 18 athletes (16.8% of the sample) participated in an aesthetic sport (e.g., gymnastics, dance, synchronized swimming) and 27 athletes (25.2% of the sample) were recruited while participating in an individual sport (e.g., gymnastics, track and field, karate, dance). Additionally, 87 athletes (81.3%) indicated that they participated in one or more sport(s) other than the sport that they were recruited from.

Table 2: Number of participants in each sport

<table>
<thead>
<tr>
<th>Sport</th>
<th>N (% of sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Hockey</td>
<td>31 (28.97)</td>
</tr>
<tr>
<td>Soccer</td>
<td>17 (15.89)</td>
</tr>
<tr>
<td>Ice Hockey</td>
<td>9 (8.41)</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>9 (8.41)</td>
</tr>
<tr>
<td>Basketball</td>
<td>8 (7.48)</td>
</tr>
<tr>
<td>Track and Field</td>
<td>7 (6.54)</td>
</tr>
<tr>
<td>Karate</td>
<td>6 (5.61)</td>
</tr>
<tr>
<td>Dance</td>
<td>5 (4.67)</td>
</tr>
<tr>
<td>Indoor Volleyball</td>
<td>5 (4.67)</td>
</tr>
<tr>
<td>Synchronized Swimming</td>
<td>4 (3.74)</td>
</tr>
<tr>
<td>Beach Volleyball</td>
<td>2 (1.87)</td>
</tr>
<tr>
<td>Ultimate Frisbee</td>
<td>2 (1.87)</td>
</tr>
<tr>
<td>Ringette</td>
<td>1 (0.93)</td>
</tr>
<tr>
<td>Unknown</td>
<td>1 (0.93)</td>
</tr>
</tbody>
</table>
4.3 Scale Reliability

Scale reliability was examined using Cronbach’s alpha. Any reversed scored items on the social physique anxiety scale and the perceived athletic competence scale were recoded. All scales had acceptable scale reliability (Table 1).

4.4 Correlations

The appearance-related emotions and the fitness-related emotions were all significantly and highly correlated in the expected directions (see Table 3). Therefore, a decision was made to conduct the remainder of the analysis with only the fitness-related self-conscious emotions. This aligns with recent research findings which suggested that fitness-related emotions were significant predictors of sport experiences and were more important in predicting sport experiences than appearance-related emotions (Pila et al., 2020). Since social physique anxiety also focuses on feelings regarding the appearance of the body, this scale was not used in the regression analyses (see Appendix E for correlations between appearance-related emotions and motivational sport experiences).

Perceived athletic competence and physical self-concept were also significantly correlated, $r = .51, p < .001$. Therefore, the physical self-concept scale was not used any further and only the moderating effect of perceived athletic competence was examined. The perceived athletic competence scale was chosen because sport competence is strongly associated with physical activity and sport behaviours (Pila et al., 2020) and therefore thought to also be more aligned with fitness-related emotions. Additionally, preliminary research examining the relationship between self-conscious emotions and sport experiences among adolescent females suggested that perceptions of competence may be acting as a moderator on this relationship (Sabiston & Pila, 2016).
4.5 Assumption Checking

Prior to running regression analyses, the data were assessed to ensure that they conformed to the assumptions of multiple linear regression: linearity, multicollinearity, normality, independence of residuals, and homoscedasticity. Linearity was examined using scatterplots, and the relationships between the independent and dependent variables for all models resembled straight lines, thus this assumption was satisfied. Analysis of collinearity statistics indicated that the assumption of multicollinearity was met for all of the models; all VIF values were below 10, while tolerance values were above 0.2. The normality of residuals was assessed using P-P plots. The models examining enthusiastic and constrained sport commitment showed slightly abnormal distributions, but not enough to warrant data transformations. The models that included sport enjoyment and amotivation did not have normal distributions of the residuals, so these variables were not used in the regression analyses. The independence of the residuals was tested for all models using the Durbin-Watson statistic and this assumption was met because all values were between zero and four (De Boef, 2004). To test the assumption of homoscedasticity, residual plots were created for all of the models. The resulting distributions were assessed for random or cone-shaped patterns. The models that included enthusiastic and constrained sport commitment had slightly cone-shaped distributions, which indicated minor heteroscedasticity. Since this deviation was minor, no transformations were performed.

4.6 Hypothesis Testing

4.6.1 Hypothesis 1

It was hypothesized that negative body-related emotions (i.e., shame, guilt, envy and embarrassment) would be associated with negative motivational sport experiences
Table 3: Correlations between fitness and appearance-related self-conscious emotions

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. F-Em.</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. A-Em.</td>
<td>.78**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. F-Envy</td>
<td>.70**</td>
<td>.72**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. A-Envy</td>
<td>.65**</td>
<td>.78**</td>
<td>.78**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. F-AP</td>
<td>-.65**</td>
<td>-.54**</td>
<td>-.58**</td>
<td>-.50**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. A-AP</td>
<td>-.53**</td>
<td>-.56**</td>
<td>-.36**</td>
<td>-.40**</td>
<td>.63**</td>
<td>-</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>7. F-HP</td>
<td>-.63**</td>
<td>-.50**</td>
<td>-.49**</td>
<td>-.43**</td>
<td>.75**</td>
<td>.66**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. A-HP</td>
<td>-.52**</td>
<td>-.58**</td>
<td>-.39**</td>
<td>-.41**</td>
<td>.60**</td>
<td>.76**</td>
<td>.73**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. F-Guilt</td>
<td>.66**</td>
<td>.59**</td>
<td>.66**</td>
<td>.55**</td>
<td>-.60**</td>
<td>-.46**</td>
<td>-.51**</td>
<td>-.44**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. A-Guilt</td>
<td>.64**</td>
<td>.77**</td>
<td>.65**</td>
<td>.66**</td>
<td>-.56**</td>
<td>-.49**</td>
<td>-.43**</td>
<td>-.44**</td>
<td>.73**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>11. F-Shame</td>
<td>.80**</td>
<td>.72**</td>
<td>.75**</td>
<td>.64**</td>
<td>-.68**</td>
<td>-.51**</td>
<td>-.61**</td>
<td>-.49**</td>
<td>.73**</td>
<td>.66**</td>
<td>-</td>
</tr>
<tr>
<td>12. A-Shame</td>
<td>.72**</td>
<td>.87**</td>
<td>.69**</td>
<td>.79**</td>
<td>-.57**</td>
<td>-.57**</td>
<td>-.51**</td>
<td>-.61**</td>
<td>.57**</td>
<td>.75**</td>
<td>.73**</td>
</tr>
</tbody>
</table>

*Note. F = fitness-related emotion, A = appearance related emotion, Em. = Embarrassment, HP = Hubristic Pride, AP = Authentic Pride.
* p < .05, ** p < .01.
(i.e., constrained commitment and controlled motivation). Conversely, it was expected that positive body-related emotions (i.e., authentic and hubristic pride) would be related to positive motivational sport experiences (i.e., autonomous motivation and enthusiastic sport commitment). As indicated above, due to the high correlations between specific appearance and fitness-related emotions (e.g., appearance shame and fitness shame), only the fitness-related emotions were used to test the hypotheses. The first step to assess this hypothesis was to examine the correlations between fitness-related emotions and each motivational sport experience. This was followed by a stepwise regression analysis for each dependent variable.

As seen in Table 4, Pearson correlations indicated that authentic and hubristic pride had significant positive correlations with enthusiastic commitment as well as autonomous motivation. Additionally, these two positive emotions were negatively correlated with constrained commitment and displayed weak correlations with controlled motivation. Conversely, the negative emotions of envy, embarrassment, shame and guilt were significantly and positively related to constrained commitment. However, only envy was significantly correlated with controlled motivation. These negatively valanced emotions also had significantly negative correlations with autonomous motivation and enthusiastic commitment.

Stepwise regression analyses were used to investigate the relationship between each motivational sport experience and fitness-related self-conscious emotions. The first regression analysis assessed the prediction of fitness-related emotions on enthusiastic sport commitment (Table 5). Only authentic pride entered the model and explained a significant proportion of variance in enthusiastic commitment scores, adjusted $R^2 = .205, F(1,105) = 28.42, p < .001$. The second regression analysis examined the effect of fitness-related emotions on constrained commitment (Table 6). Only envy entered the model and explained a significant proportion of
variance in constrained commitment scores, adjusted $R^2 = .137$, $F(1,105) = 17.87$, $p < .001$. The third regression analyses explored the relationship between fitness-related emotions and autonomous sport motivation (Table 7). Only authentic pride entered the model and explained a significant proportion of variance in autonomous sport motivation scores, adjusted $R^2 = .234$, $F(1,104) = 33.13$, $p < .001$. The fourth regression analyses assessed the impact of fitness-related emotions on controlled motivation (Table 8). Only fitness-related envy entered the model and explained a significant proportion of variance in controlled motivation scores, adjusted $R^2 = .062$, $F(1,104) = 7.93$, $p < .01$. In summary, all of the fitness-related emotions were significantly correlated with autonomous motivation, enthusiastic commitment and constrained commitment in the expected directions. However, the relationships between fitness-related emotions and controlled motivation did not correspond with the hypothesis. Furthermore, only one fitness-related emotion predicted each sport experience due to the moderate to high correlations among the fitness-related emotions.

Table 4: Correlations between fitness-related emotions and motivational sport experiences

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. F-Em.</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. F-Envy</td>
<td>.70**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. F-AP</td>
<td>-.58**</td>
<td>-.58**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. F-HP</td>
<td>-.63**</td>
<td>-.49**</td>
<td>.75**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. F-Guilt</td>
<td>.66**</td>
<td>.66**</td>
<td>-.60**</td>
<td>-.51**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. F-Sh.</td>
<td>.80**</td>
<td>.75**</td>
<td>-.68**</td>
<td>-.61**</td>
<td>.73**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. En.SC</td>
<td>-.35**</td>
<td>-.24*</td>
<td>.46**</td>
<td>.37**</td>
<td>-.23*</td>
<td>-.35**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Con.SC</td>
<td>.38**</td>
<td>.38**</td>
<td>-.30**</td>
<td>-.21*</td>
<td>.27**</td>
<td>.34**</td>
<td>-.48**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>9. Cont.</td>
<td>.11</td>
<td>.27**</td>
<td>-.07</td>
<td>.03</td>
<td>.15</td>
<td>.15</td>
<td>-.06</td>
<td>.50**</td>
<td>-</td>
</tr>
<tr>
<td>10. Auto.</td>
<td>-.35**</td>
<td>-.27**</td>
<td>.49**</td>
<td>.42**</td>
<td>-.26**</td>
<td>-.36**</td>
<td>.61**</td>
<td>-.28**</td>
<td>.24*</td>
</tr>
</tbody>
</table>

Note. F = fitness-related emotion, Em. = embarrassment, HP = hubristic pride, AP = authentic pride, Sh. = shame, En.SC = enthusiastic sport commitment, Con.SC = constrained sport commitment, Cont. = controlled motivation, Auto. = autonomous motivation.

*p < .05, **p < .01.
Table 5: Stepwise regression analysis for fitness-related emotions and enthusiastic sport commitment

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>F</th>
<th>df</th>
<th>p</th>
<th>Adj. R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Model</td>
<td>10.65</td>
<td>1.21</td>
<td></td>
<td>8.85</td>
<td>.000</td>
<td>28.42</td>
<td>1,105</td>
<td>.000</td>
<td>.205</td>
</tr>
<tr>
<td>F-AP</td>
<td>.43</td>
<td>.08</td>
<td>.46</td>
<td>5.33</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was enthusiastic sport commitment. F-AP = fitness-related authentic pride.

Table 6: Stepwise regression analysis for fitness-related emotions and constrained sport commitment

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>F</th>
<th>df</th>
<th>p</th>
<th>Adj. R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Model</td>
<td>2.79</td>
<td>1.32</td>
<td></td>
<td>2.12</td>
<td>.037</td>
<td>17.87</td>
<td>1,105</td>
<td>.000</td>
<td>.137</td>
</tr>
<tr>
<td>F-Envy</td>
<td>.49</td>
<td>.12</td>
<td>.38</td>
<td>4.23</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was constrained sport commitment. F-Envy = fitness-related envy.

Table 7: Stepwise regression analysis for fitness-related emotions and autonomous sport motivation

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>F</th>
<th>df</th>
<th>p</th>
<th>Adj. R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Model</td>
<td>21.27</td>
<td>4.13</td>
<td></td>
<td>5.15</td>
<td>.000</td>
<td>33.13</td>
<td>1,104</td>
<td>.000</td>
<td>.234</td>
</tr>
<tr>
<td>F-AP</td>
<td>1.60</td>
<td>.28</td>
<td>.49</td>
<td>5.76</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was autonomous sport motivation. F-AP = fitness-related authentic pride.

Table 8: Stepwise regression analysis for fitness-related emotions and controlled sport motivation

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>F</th>
<th>df</th>
<th>p</th>
<th>Adj. R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Model</td>
<td>14.64</td>
<td>2.12</td>
<td></td>
<td>6.89</td>
<td>.000</td>
<td>7.93</td>
<td>1,104</td>
<td>.006</td>
<td>.062</td>
</tr>
<tr>
<td>F-Envy</td>
<td>.53</td>
<td>.19</td>
<td>.27</td>
<td>2.82</td>
<td>.006</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was controlled sport motivation. F-Envy = fitness-related envy.

4.6.2 **Hypothesis 2**

It was expected that physical self-perceptions (i.e., perceived athletic competence and physical self-concept) would be positively related to autonomous motivation and enthusiastic sport commitment. Furthermore, it was expected that physical self-perceptions would be negatively related to controlled motivation and constrained sport commitment.
Pearson correlations (Table 9) indicated that perceived athletic competence and physical self-concept had significantly positive correlations with enthusiastic sport commitment and autonomous motivation. Conversely, the physical self-perception measures were negatively correlated with constrained sport commitment, but were not significantly correlated with controlled sport motivation.

Table 9: Correlations between physical self-perceptions and motivational sport experiences

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PAC</td>
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<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. PSC</td>
<td>.51**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. En.SC</td>
<td>.35**</td>
<td>.39**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Con.SC</td>
<td>-.12</td>
<td>-.26**</td>
<td>-.48**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>5. Controlled</td>
<td>.04</td>
<td>.00</td>
<td>-.06</td>
<td>.50**</td>
<td>-</td>
</tr>
<tr>
<td>6. Autonomous</td>
<td>.35**</td>
<td>.46**</td>
<td>.61**</td>
<td>-.28**</td>
<td>.24*</td>
</tr>
</tbody>
</table>

*Note. PAC = perceived athletic competence, PSC = physical self-concept, En.SC = enthusiastic sport commitment, Con.SC = constrained sport commitment, Controlled = controlled motivation, Autonomous = autonomous motivation. * p < .05, ** p < .01*

4.6.3 Hypothesis 3

Lastly, it was expected that the relationship between the fitness-related self-conscious emotions and motivational sport experiences would be moderated by physical self-perceptions. To assess this hypothesis, a moderated regression analysis was conducted on each model that was created during testing for hypothesis one. As previously stated, perceived athletic competence was used as the potential moderator. First, the predictors (i.e., fitness-related envy, fitness-related authentic pride, and perceived athletic competence) were mean centered and the interaction terms were computed.

The first model examined the impact of perceived athletic competence on the relationship between authentic pride and enthusiastic sport commitment (Table 10). The moderating effect of
perceived athletic competence was not significant, $R^2$ change = .002, $p = .638$. The second model included fitness-related envy, perceived athletic competence and constrained sport commitment (Table 11). The moderating effect of perceived athletic competence was not significant, $R^2$ change = .015, $p = .178$. The third model assessed the impact of perceived athletic competence on the relationship between fitness-related envy and controlled sport motivation (Table 12). The moderating effect of perceived athletic competence was not significant, $R^2$ change = .004, $p = .505$. Lastly, the fourth model included fitness-related authentic pride, perceived athletic competence and autonomous sport motivation (Table 13). The moderating effect of perceived athletic competence was not significant, $R^2$ change = .001, $p = .763$. Overall, there was no evidence that perceived athletic competence buffered or enhanced the effect of self-conscious emotions on motivational sport experiences. Further regression analyses examining the potential moderating effect of perceived athletic competence on the relationships between fitness-related emotions and motivational sport experiences can be found in Appendix F.

Table 10: Moderated regression analysis for fitness-related authentic pride, perceived athletic competence and enthusiastic sport commitment

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>B</th>
<th>df</th>
<th>$\beta$</th>
<th>$R^2$ change</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Overall</td>
<td>16.98</td>
<td>2,104</td>
<td>.232</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-AP</td>
<td>.36</td>
<td>.38</td>
<td>.38</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAC</td>
<td>.08</td>
<td>.16</td>
<td>.14</td>
<td>.193</td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>Overall</td>
<td>17.04</td>
<td>3,103</td>
<td>.002</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-AP</td>
<td>.36</td>
<td>.38</td>
<td>.38</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-AP*PAC</td>
<td>-.01</td>
<td>-.05</td>
<td>-.05</td>
<td>.683</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was enthusiastic sport commitment. F-AP = fitness-related authentic pride, PAC = perceived athletic competence
**Table 11: Moderated regression analysis for fitness-related envy, perceived athletic competence and constrained sport commitment**

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>B</th>
<th>df</th>
<th>β</th>
<th>R² change</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Overall</td>
<td>8.12</td>
<td>2,104</td>
<td>.146</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Envy</td>
<td>.49</td>
<td>2,104</td>
<td>.38</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAC</td>
<td>-.01</td>
<td>2,104</td>
<td>-.01</td>
<td>.927</td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>Overall</td>
<td>7.99</td>
<td>3,103</td>
<td>.015</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Envy</td>
<td>.52</td>
<td>3,103</td>
<td>.40</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAC</td>
<td>.02</td>
<td>3,103</td>
<td>.03</td>
<td>.801</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Envy*PAC</td>
<td>-.02</td>
<td>3,103</td>
<td>-.13</td>
<td>.178</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was constrained sport commitment. F-Envy = fitness-related envy, PAC = perceived athletic competence

**Table 12: Moderated regression analysis for fitness-related envy, perceived athletic competence and controlled sport motivation**

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>B</th>
<th>df</th>
<th>β</th>
<th>R² change</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Overall</td>
<td>20.38</td>
<td>2,103</td>
<td>.087</td>
<td>.000</td>
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</tr>
<tr>
<td></td>
<td>F-Envy</td>
<td>.60</td>
<td>2,103</td>
<td>.30</td>
<td>.003</td>
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</tr>
<tr>
<td></td>
<td>PAC</td>
<td>.14</td>
<td>2,103</td>
<td>.13</td>
<td>.184</td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>Overall</td>
<td>20.48</td>
<td>3,102</td>
<td>.004</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Envy</td>
<td>.58</td>
<td>3,102</td>
<td>.29</td>
<td>.004</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAC</td>
<td>.12</td>
<td>3,102</td>
<td>.12</td>
<td>.263</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Envy*PAC</td>
<td>.02</td>
<td>3,102</td>
<td>.07</td>
<td>.505</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was controlled sport motivation. F-Envy = fitness-related envy, PAC = perceived athletic competence
Table 13: Moderated regression analysis for fitness-related authentic pride, perceived athletic competence and autonomous sport motivation

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>B</th>
<th>df</th>
<th>β</th>
<th>R² change</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Overall</td>
<td>44.43</td>
<td>2,103</td>
<td>.256</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-AP</td>
<td>1.38</td>
<td>.42</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAC</td>
<td>.23</td>
<td>.14</td>
<td>.158</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>Overall</td>
<td>44.54</td>
<td>3,102</td>
<td>.001</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-AP</td>
<td>1.38</td>
<td>.42</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAC</td>
<td>.21</td>
<td>.13</td>
<td>.234</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-AP*PAC</td>
<td>-.01</td>
<td>-.03</td>
<td>.763</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. The dependent variable for the regression was autonomous sport motivation. F-AP = fitness-related authentic pride, PAC = perceived athletic competence.
Chapter 5: Discussion and Conclusions

5.1 Discussion

The purpose of this research project was to examine the independent and joint effects of fitness related self-conscious emotions and physical self-perceptions on motivational sport experiences in adolescent female athletes. Overall, the results are generally consistent with the hypotheses that fitness-related self-conscious emotions and physical self-perceptions would be significantly correlated with types of commitment and motivation. There was, however, no evidence that physical self-perceptions moderated the relationship between fitness self-conscious emotions and the motivation and commitment variables. In the following sections I will discuss the theoretical implications of specific findings, strengths and limitations of the study, and the ramifications for female adolescent sport participation.

5.1.1 Body-Related Self-Conscious Emotions

Preliminary analysis for the first hypothesis revealed high inter-correlations between all of the body-related self-conscious emotions, with significant correlations between the negative emotions (i.e., shame, guilt, envy and embarrassment) ranging between 0.55 to 0.87, and correlations between the positive emotions (i.e., authentic and hubristic pride) ranging from 0.60 to 0.76. These findings are consistent with past research examining both appearance and fitness body-related self-conscious emotions in adult and adolescent populations (Pila et al., 2016, 2020; Sabiston et al., 2020). Castonguay and colleagues (2014, 2016) found that high correlations between appearance and fitness focused body-related self-conscious emotions are indicated across multiple studies that use different measures to quantify the experience of self-conscious emotions. Furthermore, these studies suggest that the significant correlations between the
emotions reflect commonalities between the self-conscious emotions, such as the self-evaluative processes required, the valence, and the types of eliciting events (Castonguay et al., 2014, 2016; Tracy & Robins, 2004).

An explanation for the high correlations seen in the results is that the data may be capturing an athlete’s general negative or positive affective feelings about sport participation rather than differentiating between distinct emotions, which may suggest components of emotional complexity (Berrios, 2019; Grossmann, Huynh, & Ellsworth, 2016). Specifically, the high correlations between the negative emotions (i.e., shame, guilt, envy, embarrassment) and between the positive emotions (i.e., authentic and hubristic pride) indicate that perhaps athletes are experiencing either an overall negative affective state towards their sport experience, or may have generally positive feelings towards their sport. Due to the complicated nature of affective states, individuals may be feeling mixed emotions within the sport setting (Berrios, 2019; Grossmann et al., 2016) thus, it is difficult to differentiate which specific positive or negative emotion an athlete may be experiencing. For instance, if an athlete feels poorly about their fitness, their emotional experience may reflect guilt, shame and embarrassment. Therefore, their general affective state towards sport is negative, but the specific emotion that the athlete is experiencing may be challenging to determine.

An alternative explanation for the high correlations and subsequent negative affect states that were captured in this data is gendered socialization in regards to the body. Objectification Theory draws attention to important sociocultural factors that influence body image and perceptions of the physical self among young females (Fredrickson & Roberts, 1997). This theory states that girls and young females in Western cultures are socialized into viewing their bodies as objects and subsequently experience pressure to conform to unrealistic body shapes.
(Crocker et al., 2006; Fredrickson & Roberts, 1997). This self-objectification is linked to an increased focus on one’s body (i.e., body surveillance), which can lead to negative body-related emotions, increased body dissatisfaction and poor mental health outcomes (Fredrickson & Roberts, 1997). Specifically, body-related shame and guilt have been found to be strong predictors of mental health outcomes within this theoretical model (Calogero & Pina, 2011; Moradi & Huang, 2008). Overall, this theory suggests that young females in Western cultures and societies may be socialized to feel negatively towards about their bodies. Furthermore, researchers have found that for females with non-Western cultural backgrounds, integration into Western societies may increase body dissatisfaction as individuals begin to adopt different cultural body ideals (Bakhshi, 2011). Therefore, the sample in this study may be experiencing an increased focus on the body due to self-objectification and therefore be predisposed to experiencing negative body-related affective states.

Overall, the findings from this study do not reveal the specific discrete self-conscious emotions that adolescent female athletes are experiencing in a sport context. Therefore, future research is needed to examine and understand the influence of emotional complexity and gendered socialization for body-related self-conscious emotions in sport and physical activity contexts (Sabiston et al., 2020).

5.1.1.1 **Fitness vs Appearance Body-Related Self-Conscious Emotions**

To further add to the complexity of body-related self-conscious emotions, there are unique experiences underlying both negative and positive emotions specific to fitness-related as well as appearance-related aspects of the body (Castonguay et al., 2016). The data revealed significant correlations between the fitness and appearance aspects for each emotion, with values ranging from 0.63 to 0.78. Furthermore, the fitness-related emotions, in general, displayed higher
correlations to the motivation and commitment experiences in comparison to appearance-related emotions. The high correlations between appearance and fitness-related emotions coupled with the generally more impactful relationships between fitness-related emotions and motivational sport experiences, led to the decision to examine only the relationship between fitness-related emotions and motivational sport experiences. This choice was in part a response to the call to examine the impact of domain-specific self-conscious emotions within sport contexts (Pila et al., 2020). Furthermore, both positive and negative fitness-related emotions have been shown to be significant predictors of sport experiences beyond that of appearance-related emotions (Gilchrist et al., 2018; Pila et al., 2020). Gilchrist and colleagues (2018) found that when appearance and fitness-related pride were tested simultaneously, it was fitness-related authentic and hubristic pride that presented stronger relationships with engagement in moderate to vigorous physical activity, in comparison to appearance-related pride. Additionally, research with adolescent females suggested that fitness-related emotions had a unique contribution to the sport experience of young females that extended beyond feelings about the appearance of the body, which means that fitness focused emotions may make a greater contribution to sport behaviours and outcomes (Pila et al., 2020). Overall, studies have indicated that targeting functional components of the body may be an important component of improving sport experiences among adolescent females, but additional research is required to support these claims (Gilchrist et al., 2018; Pila et al., 2020). Consequently, this study focused on fitness body-related self-conscious emotions in order to add to this emerging body of literature.

5.1.2 Fitness Body-Related Self-Conscious Emotions and Motivational Sport Experiences

A primary focus of this research was to examine the relationship between body-related self-conscious emotions and motivational sport experiences. Analysis was conducted to examine
the impact of fitness-related emotions on enthusiastic and constrained commitment, as well as autonomous and controlled motivation. Results indicated that all of the fitness-related self-conscious emotions were significantly correlated with the motivational sport experiences in the expected directions. Specifically, hubristic and authentic pride were positively correlated with autonomous motivation and enthusiastic commitment, while shame, guilt, envy and embarrassment were negatively correlated with autonomous motivation and enthusiastic sport commitment, but positively correlated with constrained commitment. However, only envy was positively correlated with controlled motivation. Furthermore, regression analyses found only one fitness-related emotion predicted each sport experience due to the moderate to high correlations among the fitness-related emotions; authentic pride and enthusiastic commitment (20.5%), envy and constrained commitment (13.7%), authentic pride and autonomous sport motivation (23.4%), and envy and controlled motivation (6.2%). These relationships support past research that has examined the impact of self-conscious emotions on sport and physical activity behaviours, experiences and outcomes (Gilchrist et al., 2018; Mack et al., 2015; Pila et al., 2014, 2016, 2020; Sabiston et al., 2010).

5.1.2.1 Pride

In the current research, fitness-related authentic pride significantly predicted both autonomous motivation and enthusiastic commitment. This finding supports other research on the relationship between body-related pride and positive health outcomes, such as engagement in physical activity and sport (Castonguay et al., 2013; Gilchrist et al., 2018; Mack et al., 2015; Pila et al., 2020). For example, body-related authentic pride has been shown to be related to autonomous forms of motivation (i.e., identified and intrinsic regulation), which in turn were associated with engagement in physical activity (Sabiston et al., 2010). Furthermore,
experiencing higher levels of fitness and appearance-related authentic and hubristic pride have also been positively linked with higher sport commitment, enjoyment and lower anxiety among adolescent female athletes (Pila et al., 2020). Specific to fitness-related emotions, Mack and colleagues (2015), found that both authentic and hubristic fitness-related pride were positively associated with increased engagement in moderate-to-vigorous activity, which may indicate greater levels of commitment to physical activity participation (Mack et al., 2015). Furthermore, similar to the current research, these positive emotions were also related to more autonomous forms of motivation (Mack et al., 2015). Recent research expanded on and added support to these findings by revealing that both authentic and hubristic fitness-related pride were associated with physical activity engagement, while appearance-related pride was negatively associated with these adaptive behaviours (Gilchrist et al., 2018).

The past literature, in combination with the current study, reveal the importance of considering positive body-related emotions as targets for interventions to improve physical activity and sport engagement (Gilchrist et al., 2018). Since the affective components of body image are often better predictors of behaviours than cognitions, focusing on the positive emotions surrounding the body may aid in improving engagement in adaptive health behaviours (Gilchrist et al., 2018; Rhodes et al., 2009). Furthermore, among adolescent female populations the importance of promoting adaptive emotions and encouraging the development of positive emotions over time is integral to foster positive psychological experiences within sport and exercise contexts (Pila et al., 2020). Overall, the results of the current research support the call for an increased focus on improving positive emotions, such as fitness-related authentic pride, rather than just decreasing negative emotions in order to foster adaptive outcomes (Castonguay et al., 2013; Gilchrist et al., 2018; Pila et al., 2020). By enhancing the experience of pride among
adolescent females, athletes may be able to experience more of the positive outcomes associated with sport and physical activity engagement.

5.1.2.2 Envy and Embarrassment

The current research adds to the theoretical and empirical literature examining the unique impact of envy and embarrassment on sport experiences. Neither envy nor embarrassment are included in the BAGES or BSE-FIT scales, but recent research, in addition to this data, provide a strong argument for the inclusion of these two important body-related self-conscious emotions within measurement tools and other aspects of sport and exercise psychology research. Some caution is needed, however, since these measures have not been subjected to extensive validation procedures.

Envy is not currently included in the Process Model of Self-Conscious Emotions (Tracy & Robins, 2004) and is often overlooked in sport and exercise psychology research (Pila et al., 2014, 2016). Therefore, this research adds to the theoretical understanding of body-related envy in sport contexts and provides empirical evidence of the influential role of envy on motivational sport experiences. In the current research, fitness body-related envy was an important contributor to motivational sport experiences as it was significantly correlated with both the positive and negative components of motivation and commitment in the expected directions. Furthermore, envy was a predictor of both controlled motivation and constrained commitment. This corroborates past research that tested experiences of body-related envy in young adult populations and found that envy was positively related to controlled forms of motivation, such as external and introjected regulation, which subsequently led to maladaptive exercise behaviours (Pila et al., 2014).
Although envy is not currently in the Process Model of Self-Conscious Emotions (Tracy & Robins, 2004), it requires comparisons and evaluations of one’s behaviour in relation to a standard, therefore research has treated this emotion as a self-conscious emotion (Tracy, Robins, & Tangney, 2007). Furthermore, research indicates that it is often experienced in physical activity and sport contexts (Pila et al., 2014). Therefore, past research and current findings expand on the knowledge of self-conscious emotions beyond the conceptualizations of the emotions seen in the Process Model. The current research further highlights the importance of studying envy in this context as significant relationships were shown between body-related envy and motivational sport experiences. Therefore, perhaps envy has a place within the Process Model, or future envy-related research needs to include additional theoretical models in order to further expand on the understanding of envy as a negative self-conscious emotion.

The significant impact of envy in the current research is not unexpected within this population as research has shown that females tend to engage in body-related social comparisons and report more envy in appearance focused domains than their male counterparts (Betz et al., 2019; Else-Quest et al., 2012; Pila et al., 2016). Furthermore, adolescence is a time of bodily transition for females and this heightened awareness of their body leads to a greater importance placed on achieving societal standards and peer acceptance, as well as higher levels of self-objectification and body image concern (Craike et al., 2016; Slater & Tiggemann, 2011). Therefore, the current research findings may have indicated high levels of body-related envy due to the physical and emotional life stage of the sample population. Past research has also shown a potential positive component of body-related envy in that it could also be associated with identified regulation and tied to adaptive exercise behaviours (Pila et al., 2014). The strictly negative component of envy present within this study may be an additional by-product of the

69
sample population, which differed from previous studies. The current research reflects the emotional experiences of adolescent females, who are more likely to experience higher levels of personal body dissatisfaction and negative body-related emotions in comparison to other populations (Craike et al., 2016; Else-Quest et al., 2012). Overall, this research adds evidence of the detrimental effects of body-related envy on motivational sport experiences in a female adolescent population.

The current research also adds to the limited research on the negatively valenced emotion of embarrassment in sport contexts. The results showed that embarrassment had significant positive correlations with envy, guilt, shame, and constrained commitment. Furthermore, embarrassment had significant negative correlations with both forms of pride, autonomous motivation and enthusiastic commitment. This emotion is often overlooked within sport and exercise research, and very few studies have assessed this emotion in adolescent populations (Vani et al., 2020). However, since adolescence is a critical period for developmental changes to the body and perceptions of the self, embarrassment may play an integral role in sport and exercise behaviours (Eime et al., 2013a; Petrie & Greenleaf, 2011; Sabiston et al., 2014). Furthermore, recent research findings suggest that body-related embarrassment is a distinct emotion in that it has a set of antecedents and consequences unique to itself and thus should be more substantially defined and explored within the self-conscious emotions literature (Vani et al., 2020). Additionally, researchers have found that situational factors which elicited body-related embarrassment among adolescents included the fear of negative evaluation or body exposure, social comparisons, and the perceived inability to reach a certain standard, which are all situations that can be found within sport and exercise contexts (Sabiston et al., 2014; Vani et al., 2020). Thus, this emotion may play an instrumental role on athletes’ experience within sport.
Furthermore, females report more fear of negative evaluations and body-related embarrassment than males, and therefore engage in greater behavioural avoidance (Vani et al., 2020). This may explain the relationship between embarrassment and constrained commitment seen in the current study, as female athletes experiencing body-related embarrassment may prefer not to engage in an activity in which their body is on display, but feel forced to remain committed to their sport. Additionally, body-related embarrassment has been found to not only be experienced in settings where the appearance of the body is emphasized, but also in contexts in which the function of the body is the focus (Vani et al., 2020). The current research supports this finding since fitness and appearance focused aspects of embarrassment were examined separately and it was the fitness component of embarrassment that was correlated with constrained commitment. Overall, the results of this research expand on the current understanding of the impact of body-related embarrassment on motivational sport experiences.

5.1.3 Physical Self-Perceptions and Motivational Sport Experiences

In the current research, perceived athletic competence and physical self-concept were positively related to enthusiastic commitment and autonomous motivation and negatively correlated with constrained commitment. However, neither construct was significantly related to controlled motivation. These findings are consistent with previous research examining the relationship between physical self-perceptions and physical activity outcomes (Babic et al., 2014; Crocker et al., 2000; deJonge et al., 2019; Rottensteiner et al., 2015). Physical self-concept has been linked to long-term sport commitment in adolescent female athletes (deJonge et al., 2019) while perceived athletic competence is related to autonomous motivation in adolescent sport contexts (Rottensteiner et al., 2015) and the promotion of physical activity behaviours among youth (Babic et al., 2014).
5.1.3.1 Physical Self-Concept

The current results regarding physical self-concept add to and extend the existing literature. Past research indicated that athletes with strong physical self-concept are more likely to engage in physical activity and sport (Babic et al., 2014; Crocker et al., 2008; deJonge et al., 2019), which is supported by the current study. However, this research extends the literature by differentiating between specific motivational sport experiences. For example, in longitudinal research with adolescent female athletes, deJonge and colleagues (2019) found that physical self-concept was significantly related to a global measure of sport commitment. However, the current study adds to this research by examining the two facets of commitment (i.e., enthusiastic and constrained). By separating constrained and enthusiastic commitment into two distinct measures, the current research suggests that higher levels of physical self-concept are related to the positive experience of enthusiastic sport commitment; whereas lower levels of physical self-concept do not necessary result in constrained sport commitment. Therefore, this research provides important practical considerations for interventions that may be geared towards improving physical self-concept and sport commitment among adolescent athletes (deJonge et al., 2019).

5.1.3.2 Perceived Athletic Competence

Perceived athletic competence was also strongly related to motivational sport experiences in the current research, which is consistent with past research that has examined the relationships between competence and health behaviours, such as physical activity and sport (Baker & Davison, 2011; Crocker et al., 2006; Rottensteiner et al., 2015). The current study focused on perceived athletic competence as a measure for physical self-perceptions as it is more closely aligned with sport behaviours (Pila et al., 2020), and therefore thought to be more closely related to fitness-related emotions and the subsequent impact on motivational sport experiences (Pila &
Additionally, perceived athletic competence has been found to be related to sport specific outcomes in past research (Corr et al., 2019; Rottensteiner et al., 2015; Trew et al., 1999). In a previous study, higher perceived competence indicated higher levels of autonomous motivation towards sport among youth athletes (Rottensteiner et al., 2015). This subsequently created greater long-term persistence, or commitment, to the particular sport (Rottensteiner et al., 2015). Specific to female adolescents, self-perceptions of sport competence were correlated with physical activity (Crocker et al., 2006) such that higher levels of perceived competence contributed to higher activity levels and low perceived competence was cited as a barrier to physical activity and sport participation (Baker & Davison, 2011; Corr et al., 2019).

Overall, based on the current and past research, physical self-perceptions can predict physical activity and key motivational factors related to sport participation in female populations, therefore indicating that interventions aimed at enhancing physical self-perceptions among athletes may be a valuable tool to enhance positive long-term sport outcomes (Baker & Davison, 2011; Corr et al., 2019; Crocker et al., 2000, 2006; deJonge et al., 2019). These interventions may be particularly salient in adolescence as this period is an important time for self-perception development (Lindwall Aşçi, & Crocker, 2014). In particular, females often have lower perceptions of the self and undergo large within-person changes throughout early to middle adolescence (Crocker et al., 2000; Lindwall et al., 2014). Therefore, it is important to understand the antecedents associated with changes to physical self-perceptions during adolescence (deJonge et al., 2019) in order to intervene and enhance perceptions of the physical self and subsequent behavioural outcomes.
5.1.4 Sport Motivation and Sport Commitment

The current research also supports and contributes to research on sport motivation using SDT as a theoretical framework. First, the moderate but significant correlation between perceived athletic competence and autonomous motivation in the current research supports SDT as this theory states that when competence needs are met, an individual will experience more autonomous forms of motivation (Deci & Ryan, 2002), which leads to better sport outcomes. Within sport settings, feedback from coaches, parents and peers is continuous, and if this feedback is positive it will increase perceptions of competence which will lead to intrinsic motivation (Deci & Ryan, 2002; Ryan & Deci, 2017). However, negative feedback will diminish competence and lead to more controlled forms of motivation (Deci & Ryan, 2002; Ryan & Deci, 2017). Furthermore, Ryan and Deci (2017) speculate that social comparisons within sport create a decrease in competence, which subsequently leads to poor sport experiences and sport dropout. Since self-conscious emotions can be a direct result of social comparisons, it may be that self-conscious emotions factor into theoretical explanations using SDT within sport settings.

Furthermore, the complications with amotivation (i.e., positively skewed distribution) within this research may reflect a lack of amotivated individuals within the sample. According to SDT, amotivation refers to people who lack any intentionality or motivation to engage in the activity, and do not value the outcome of the activity (Ryan & Deci, 2002). Furthermore, for most individuals the choice to spend free time playing sports suggests a higher degree of intrinsic motivation (Ryan & Deci, 2017). Therefore, amotivated individuals would likely either not begin engagement in sport or drop out of sport, which means this motivational outcome may be difficult to assess in athletes still engaged in sport. This issue may be informative for future research examining SDT within sport contexts, as it suggests that poor motivational outcomes
may be best examined within athletes already disengaged from sport. Lastly, this study adds to the research examining SDT within sport settings using the SMS-II by examining a different population (i.e., adolescent female athletes) from a variety of sports (Pelletier et al., 2013).

This research also adds to and provides support for the theoretical understanding of sport commitment. Although the original Sport Commitment Model (SCM) did not include constrained commitment (Scanlan et al., 1993a), the model has recently been expanded to include additional antecedents and outcomes, such as constrained commitment (Scanlan et al., 2016). The current research supports the new addition of constrained commitment since results revealed significant correlations between all of the fitness self-conscious emotions and constrained commitment in the expected direction. Furthermore, limited research has been conducted using the updated version of the SCM (deJonge et al., 2019) which includes both aspects of sport commitment. Therefore, this research adds to the growing body of literature examining commitment as an important sport experience and provides evidence for the importance of differentiating between the “want to” and “have to” components of sport commitment. Furthermore, the significant correlations between the self-conscious emotions and enthusiastic commitment reflect the antecedent of enjoyment that is outlined in the SCM (Scanlan et al., 1993a). Enjoyment, which inherently reflects general positive affective experiences, such as joy, is described as an important factor for experiencing enthusiastic sport commitment (Scanlan et al., 1993a). Therefore, it is logical that an athlete experiencing positive body-related emotions would be likely to experience enthusiastic sport commitment, while negative emotions would not enhance this positive form of commitment.

Lastly, the correlations seen in the current research between perceived athletic competence, motivational outcomes and commitment provide support to Scanlan and colleagues
(2016) call to connect the SCM to other motivational theories in order to enhance the understanding of sport experiences. For instance, in the current research, constrained commitment is moderately related to controlled motivation while enthusiastic commitment is moderately correlated with autonomous motivation. This suggests that the constructs within SDT and SCM may be interrelated and recognizing these connections may assist in creating a more nuanced understanding of motivational sport experiences. Therefore, Scanlan and colleagues (2016) suggested that theorists studying, for example, self-determination (Deci & Ryan, 2002) and competence motivation (Harter, 1978), as well as sport commitment (Scanlan et al., 1993) should examine the similarities and differences among the theories in order to enhance the overall understanding of motivational outcomes within sport. This suggestion is supported by the significant correlations between emotions, competence, motivation, and commitment that were revealed in the current research.

5.1.5 Moderating Effect of Perceived Athletic Competence on Motivational Sport Experiences

In the current research perceived athletic competence was assessed as a moderator on the relationship between negative body-related emotions and negative motivational sport experiences (i.e., envy and constrained commitment, envy and controlled motivation). However, perceived athletic competence was not a significant moderator. Furthermore, perceived athletic competence did not have any facilitation effects between positive emotions and positive motivational sport experiences (i.e., authentic pride and autonomous motivation, authentic pride and enthusiastic commitment). This finding contradicted preliminary qualitative research by Sabiston and Pila (2016) which suggested that high perceived athletic ability might reduce the damaging impact of negative body-related emotions.
Moderation effects were expected within this study due to the influential role that self-perceptions have on affective experiences. Within the Process Model of Self-Conscious emotions, Tracy and Robins (2004) denoted that in order for a self-conscious emotion to occur, the situation at hand must activate self-representations. When there is increased attention on the self, this can increase the saliency of emotional experiences as well as allow the individual to make comparisons between their current self-representations and their actual or ideal self-representations (Tracy & Robins, 2004). If there is a discrepancy between the current self-perceptions and the ideal self, then this appraisal would elicit a negative self-conscious emotion (Tracy & Robins, 2004). However, if the two self-representations are congruent this would generate a positive self-conscious emotion (Tracy & Robins, 2004). For instance, within a sport context, if an athlete scores a goal this would activate the self-representation of a succeeding athlete, which would be congruent with the athlete’s actual and ideal physical self-representation. This would lead to the experience of positive self-conscious emotions (Tracy & Robins, 2004). However, if an athlete does not achieve athletic success and appraises that they are a failing athlete, there would be a discrepancy between their current and ideal physical self-representations, which could create negative self-conscious emotions (Tracy & Robins, 2004). Therefore, achieving the desired level of athletic competence may indicate achievement of the ideal perceptions of the self and the subsequent experience of positive emotions.

Additional theoretical knowledge provided the notion that physical self-perceptions would act as a moderator in the current study as past research points to the important role of physical self-perceptions on the relationship between emotions and outcomes. Harter (1978) suggested that self-esteem and perceived competence impact affective experiences, which then influence motivational outcomes. Therefore, low self-esteem is often linked to negative
outcomes, such as a lack of motivation or poor mental health (Harter, 1999). Furthermore, self-esteem can assist in counteracting the impact of stressors, such as body-related emotions, on negative outcomes (Brunet, Pila, Solomon-Krakus, Sabiston, & O’Loughlin, 2017; Butler, Hokanson, & Flynn, 1994). Specific to the physical domain, Fox and Corbin’s (1989) model of the physical-self indicates that the content of an individual’s self-esteem creates various physical self-perceptions which then predict involvement in physical activity. It is suggested that this relationship may also be bidirectional in that an individual’s physical self-perceptions can impact self-esteem (Fox & Corbin, 1989). For example, participating in sport enhances physical competencies among females which then promotes higher self-esteem and global self-worth (Richman & Shaffer, 2000). Overall, these theoretical models indicate the important role that aspects of the physical-self may have on physical activity experiences and outcomes, thus indicating the potential for moderating effects to be present in the current research.

Empirical research supports these theoretical ideas as other constructs within the physical domain, such as self-esteem, body compassion, and body appreciation have been found to either mediate or moderate the relationship between emotions and health behaviours (Brunet et al., 2017; Cox et al., 2019; Oliveira, Trindade, & Ferreira, 2018). For example, self-esteem has been found to moderate the relationship between body-related guilt and the frequency of depressive symptoms, such that improving self-esteem may lessen the negative impact of body-related guilt on symptoms of depression (Brunet et al., 2017). Furthermore, in research conducted with a female population, body compassion acted as a moderator between feelings of shame and disordered eating symptomatology and psychopathology (Oliveria et al., 2018). Additionally, in a large sample of females, body surveillance and body appreciation mediated the relationship between self-compassion and intrinsic motivation for physical activity engagement, indicating
that targeting self-compassion and body appreciation may increase female’s intrinsic motivation for physical activity behaviours (Cox et al., 2019).

Although theoretical and empirical research suggests that perceived athletic competence would act as a moderator within the current study, a theoretical explanation for the lack of moderating effects may be that perceived athletic competence functions as a coping mechanism and thus would only be noticeable in instances when acute negative emotions are activated by specific sport encounters. Based on the Competence Motivation Theory (Harter, 1978), self-esteem and perceived competence impact affective experiences, such as enjoyment, anxiety and pride. These affective experiences then subsequently influence motivational outcomes. Ebbeck and Weiss (1998) expanded on this model and found that a bidirectional relationship between perceived competence and affect might be more accurate, indicating that affective experiences also impact perceived athletic competence. Furthermore, Ebbeck and Weiss (1998) suggested the Perceived Competence Mediator Model in which perceived athletic competence acts a mediator in the relationship between affect (positive and negative) and self-esteem. Therefore, it appears that perceived athletic competence plays an instrumental role in the elicitation of either high or low self-esteem, and it is then self-esteem then impacts cognitive and behavioural outcomes.

To add to the complex relationships, within diathesis-stress models high self-esteem constitutes a protective factor against the negative effects of stressors on the risk of developing mental health issues (Brunet et al., 2017; Butler, Hokanson, & Flynn, 1994). Furthermore, self-esteem may be used as a way to regulate behaviour and cope with life events, thus it can be a useful and effective resource for young females in sport (Mosewich, Kowalski, Sabiston, Sedgwick, & Tracy, 2011; Pyszczynski, Greenberg, Soloman, Arndt, & Schimel, 2004). With all of these relationships in mind, it may be that when an individual experiences an acute negative
emotion, such as shame or guilt, they are able to use perceptions of competence and self-esteem as a coping resource against the negative affective state, which subsequently alters the behavioural outcome. Therefore, it may be that perceived athletic competence did not act as a moderator in this study since the data captured general positive or negative affective states rather than an acute emotional experience. In conclusion, perceived athletic competence may not act as a moderator in the current study due to the inability to capture acute emotional experiences and the subsequent coping mechanisms. Future research should strive to examine more acute emotions to assess whether self-esteem and perceived athletic competence are used as a coping resource when faced with negative body-related emotions in sport contexts.

An alternative potential explanation for the lack of moderation may be a result of the influential impact of emotions on health behaviours and outcomes. Past research has underscored the importance of considering emotions and affective experiences in eliciting health behaviours and intentions in a variety of contexts as affect may influence behaviour above and beyond attitudes or cognitions (Gilchrist et al., 2018; Lawton, Conner, & McEachan, 2009; Rhodes et al., 2009). For instance, Lawton and colleagues (2009) found that affect was more powerful than cognitive attitudes in predicting intentions to engage in nine different health behaviours as well as the subsequent behavioural choices. Furthermore, affective experiences have been found to be significant predictors of the intention to participate in exercise as well as to engage in greater levels of physical activity (Kiviniemi, Voss-Humke, & Seifert, 2007; Lowe, Eves, & Carroll, 2002). Past research highlights the need for interventions to target the affective experiences related to health experiences and behaviours, such as physical activity engagement, in order to encourage adaptive behaviour change (Gilchrist et al., 2018; Kiviniemi et al., 2007; Lawton et al., 2009). In conclusion, perceived athletic competence may not act as a moderator in the current
study due to the impact of body-related emotions on motivational sport experiences. More research is needed to understand the significant connection between affective experiences, as well as discrete emotions, and the subsequent impact on health intentions and behaviours, such as physical activity and sport engagement.

5.2 Strengths, Limitations and Future Directions

5.2.1 Strengths

There were a number of strengths to this study which allow the findings to provide a unique contribution to empirical and theoretical literature. First, this study added to the research examining the affective component of body image, specifically body-related self-conscious emotions, which has previously been understudied in sport contexts (Sabiston et al., 2020). Furthermore, this study was designed using theoretical frameworks, such as the Process Model of Self-Conscious Emotions (Tracy & Robins, 2004) and Self-Determination Theory (Deci & Ryan, 2002). This study also added to the theoretical understanding of envy as a body-related self-conscious emotion even though it is not included in the Process Model of Self-Conscious Emotions. The questionnaires used all demonstrated suitable psychometric properties in previous empirical research, which were then confirmed in this study (Castonguay et al., 2014; Castonguay, et al., 2016; Fletcher & Crocker, 2014; Marsh et al., 1994; McAuley et al., 1989; Pelletier et al., 2013; Scanlan et al., 2016). An additional strength of this study is that it adds to the work focused on creating valid and reliable measures for body-related envy and embarrassment in a variety of populations. Furthermore, this study differentiated between unique components of sport motivation (i.e., autonomous and controlled) and sport commitment (i.e., enthusiastic and constrained), which contributes to the literature regarding the impact of body-related emotions on specific motivational sport experiences. Lastly, this study provides important
information for coaches and sport organizers as it focused on adolescent females, which is a vulnerable population in terms of negative sport experiences and disengagement from sport.

5.2.2 Limitations and Future Directions

Despite these strengths, there are still a number of limitations. First, the study was not able to achieve an adequate sample size to satisfy the number of participants needed to achieve power. Due to the number of predictors in the research, this study was seeking 270 participants based on a priori power analysis using a conservative effect size ($R^2 = 0.06$), a power of 80% and a significance level of $p < .05$. This also followed a general rule to include 20 to 30 participants per predictor (Green, 1991; Wilson et al., 2007). Unfortunately, due to barriers within the recruitment process, only 107 participants were acquired. However, given the high intercorrelations among predictors only one self-conscious emotion entered the regression equation, and there was also little evidence that moderator effects would have emerged with a larger sample. Nevertheless, the findings of this study should be interpreted with caution as the prediction model may be unstable. Future research should acquire a larger sample of adolescent females in order to achieve better statistical power.

Furthermore, the inability to achieve adequate sample size also impacted the diversity of sport types represented in the data. Almost 30% of the sample were field hockey athletes with an additional 16% participating in soccer. Therefore, the findings of this research may not be applicable to sports that were underrepresented within this sample, such as ringette and ultimate frisbee, especially since sport type may influence body-related emotions and physical self-perceptions (Findlay & Bowker, 2009; Oliveria et al., 2017; Slutzky & Simpkins, 2009). For instance, females engaged in sports focused on the appearance of the body are more likely to experience negative body perceptions, have higher body dissatisfaction and experience
disordered eating behaviours (Oliveira et al., 2017; Slater & Tiggemann, 2011; Varnes et al., 2013). Furthermore, athletes in elite level sports tend to have higher physical self-concept than adolescents participating in sport at a recreational level (Findlay & Bowker, 2009; Klein et al., 2017), while athletes participating in team sport may have a stronger physical self-concept than those participating in individual sports (Slutzky & Simpkins, 2009). Therefore, the inclusion of a more diverse range of sports could alter the specific effects of this study for body-related emotions and physical self-perceptions. Future research should strive to achieve not only a larger sample size, but one that is also inclusive and representative of a variety of different sporting practices.

Another potential limitation of this study was including envy and embarrassment in the BASES and BSE-FIT questionnaires since these emotions are not part of the published scale. Although this study adds to current research working towards validating envy and embarrassment items on these two scales, there is no existing research to confirm that the items are valid and reliable, which may have influenced the results. Past research on envy and embarrassment encountered issues with existing measurement tools that were available in the literature (Pila et al., 2014, 2016; Vani et al., 2020). Research conducted on envy has used single-item measures and noted that using this form of measure limits the comprehensive understanding of the emotional experience, which highlights the need for a multi-item scale to assess this emotion (Pila et al., 2014, 2016). Furthermore, recent research with embarrassment used an open-ended self-reflective experience as a measure for this body-related emotion and expressed issues with the potential subjectivity of this measure (Vani et al., 2020). Overall, future research is needed to develop appropriate measures for envy and embarrassment and further validate the items added to the BASES and BSE-FIT scales.
In addition to issues with envy and embarrassment measures, the self-report nature of the questionnaires may pose an additional limitation. A typical limitation associated with self-report measures includes social desirability and reporting biases, which are seen in studies examining body image and physical activity (Prince et al., 2008; Sallis & Saelens, 2000; Saw, Main, & Gastin, 2015). Due to the sensitive nature of the topics presented in this study, especially for adolescent females, athletes may have altered their answers in order to adhere to how they would like their sport experience to be perceived based on what they assess as socially desirable. Future research could consider the use of more objective measures of body-related emotions, physical self-perceptions and motivational sport experiences in order to reduce the opportunity for self-report bias.

Another potential limitation within this study is the creation of three separate scores to assess sport motivation. In the literature there is controversy as to how to score measures of motivation that use the theoretical framework of SDT. It has been shown that using a single relative autonomy index (RAI) is valid when assessing motivation, is useful to create parsimony among self-determination based research, and allows for comparison and integration between different studies (Howard, Gagné, & Bureau, 2017; Sheldon, Osin, Gordeeva, Suchkov, & Sychev, 2017). However, researchers have also argued against the use of the RAI, citing that evidence for the continuum structure underlying the subscales is weak and the RAI is statistically problematic (Chemolli & Gagné, 2014). These researchers argue that the RAI is an overly simplistic way of representing complex motivational regulations (Chemolli & Gagné, 2014; Howard et al., 2017). Due to the lack of consensus in the literature, this research used methods suggested by L. Pelletier (personal communication, January 22, 2020), which involved creating scores for amotivation, controlled motivation (i.e., external and introjected) and autonomous
motivation (i.e., identified, integrated and intrinsic). However, future research is needed to validate this method of scoring the SMS-II and subsequently measuring sport motivation.

An additional limitation to this study is the cross-sectional and observational nature of the research. This design limits the ability to make causal inferences about the data and prevents the examination of changes that occur over time. Furthermore, findings from recent longitudinal research conducted on body-related emotions among adolescent female athletes has highlighted significant relationships between emotions and sport experiences, which indicate the importance of following the same sample of athletes over an extended period of time (Pila et al., 2020; Sabiston et al., 2020). Therefore, further research is needed to assess the causal relationships between body-related emotions and specific sport experiences over time (Pila et al., 2020).

Lastly, a final limitation of this study is that without a longitudinal design this study was not able to track disengagement from sport. The motivational sport experiences assessed (i.e., sport motivation and commitment) act as indicators of sport participation, but are not objective measures of sport drop-out. Longitudinal research has been successful in assessing the impact of various sport experiences, such as sport anxiety, body surveillance, weight status and physical self-perceptions on sport and physical activity participation and dropout (Crocker et al., 2006; Pila et al., 2020; Sabiston et al., 2020). However, additional research is needed to longitudinally track the impact of the body-related emotions explored in this study on sport disengagement and determine if the specific motivational sport experiences examined in this study are accurate proxies for long-term sport dropout among adolescent female athletes.

5.3 Implications and Concluding Remarks

Understanding the relationship between how females feel about their bodies within sports is integral to determining their subsequent health choices and behaviours. The results of this data
Offer a few important practical implications. First, this study was able to demonstrate that body-related self-conscious emotions impact motivational sport experiences among adolescent female athletes. Specifically, negative emotions led to poor motivational sport experiences, while the emotion of pride can create positive motivational sport experiences. Therefore, this research adds to the growing body of literature that seeks to understand both the positive and negative components of a female adolescents’ participation in sport. Furthermore, physical self-perceptions were related to adaptive types of sport motivation and commitment. Unfortunately, this research was unable to determine if physical self-perceptions moderate the relationship between negative body-related emotions and motivational sport experiences.

Overall, the results aligned with similar research on sport experiences in this specific age demographic and add to the literature examining possible causes for female youth sport disengagement. Thus, this research adds to the production of knowledge required for future researchers and practitioners to create interventions aimed at reducing negative experiences and enhancing physical self-perceptions within sport. For instance, to reduce the negative consequences of shame, guilt, envy or embarrassment, it may be beneficial to educate athletes on adaptive emotion regulation techniques, such as response modulation and cognitive change (Gross, 1998). Emotion regulation is the process by which individuals alter their emotional experience by influencing when they experience an emotion and how they express that emotion (Gross, 1998). After an event has occurred, it is possible to modify the emotional impact of the situation by changing the meaning attached to the event (i.e., cognitive change). Furthermore, once a behavioural, experiential or physiological response has occurred, an individual can alter their response tendencies (Gross, 1998). Researchers have found that self-worsening emotion regulation strategies, such as thinking about negative experiences and cynicism, are negatively
associated with enjoyment (Tamminen, Gaudreau, McEwen, & Crocker, 2016). However, strategies aimed at improving the emotion regulation of teammates, such as offering helpful advice and listening to the problems of others, were positively associated with enjoyment and commitment (Tamminen et al., 2016). Overall, educating athletes on strategies to adaptively manage their emotions may reduce the negative consequences of body-related emotions and encourage positive sport experiences.

An alternative intervention strategy to reduce negative body-related emotions within sport would be to address identity goal incongruence and conflicting self-representations. In the Process Model of Self-Conscious Emotions, Tracy and Robbins (2004) noted that negative emotions are elicited by identity goal incongruence, while identity goal congruence leads to positive emotions. Since the activation of self-representations precedes appraisals of identity relevance and congruence, identity goal incongruence occurs when there is a discrepancy between an individual’s ideal and current self-representations (Higgins, 1987; Tracy & Robins, 2004). It is important to resolve conflicting self-representations as these issues may lead to negative outcomes and dejection or agitation related emotions (Higgins, 1987).

Lastly, this study found that physical self-perceptions were related to positive motivational sport experiences, which indicates that it may be beneficial for interventions to target the development of positive physical self-perceptions among adolescent female athletes. This intervention tactic could be achieved through the involvement of social agents, such as coaches and parents. Feedback, reinforcement, and social support from parents, peers and coaches leads to higher levels of competence and self-esteem, which subsequently lead to enjoyment and engagement in physical activity (Atkins et al., 2013; Harter, 1978). When social agents are encouraging and supportive, females tend to feel more positively about themselves,
view sport as a fun activity, are motivated to improve, and feel competent at their sport; this results in more enjoyment and an increased desire to continue to participate (Atkins et al., 2013; Keegan et al., 2009). Social agents may also aid in the reduction of body image pressures within sport in order to foster higher perceptions of competence and increased engagement in sport and physical activity (Sicilia et al., 2016). It is important for parents and coaches to understand how female adolescents balance their athletic and gender body ideals, as well as the role they play in perpetrating or reducing social comparisons and body image issues (Sicilia et al., 2016; Thomsen et al., 2004). Overall, intervention programs are effective when adolescents feel competent in their physical abilities, enjoy the behaviours they have chosen, and feel encouraged and supported within the sport context, which are all factors that may be influenced by social agents (Sabiston and Crocker, 2008).

In conclusion, by reducing negative body-related emotions among female adolescents and encouraging positive physical self-perceptions sport participation rates may increase, which would ultimately allow more young females to receive the health benefits of being actively involved in sport.
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https://www.who.int
Appendices

Appendix A Parental Consent Form

Body-related self-conscious emotions and sport participation among adolescent females

PARENT INFORMATION and CONSENT LETTER

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Co-Investigator
Catherine Sabiston, PhD
Faculty of Kinesiology
University of Toronto

Graduate Research Assistant
Elizabeth Pritchard, BA
School of Kinesiology
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Introduction: Your child is invited to take part in a research study entitled: “Body-related self-conscious emotions and sport participation among adolescent females”. This study will examine how body-related thoughts and emotions influence sport motivation, commitment, and enjoyment in youth female athletes. We are recruiting 270 female athletes between the ages of 13 and 17 who are currently participating in organized sport.

Background: Research shows that girls’ participation in sport is linked to positive body image, positive self-esteem, enhanced peer relationships, and overall positive youth development. Unfortunately, girls consistently report lower rates of sport participation and lower sport enjoyment compared to boys. Ongoing research suggests that body-related emotions and perceptions of physical competence (sport skills, endurance, coordination, strength, body appearance) might be important predictors of sport motivation, enjoyment, and continued participation. This research suggests the importance of conducting sport research to promote healthy active living in female adolescents.

Purpose of the Project: The purpose of this research is to examine how adolescent female athletes’ perceptions about their physical competence and appearance as well as body-related emotions (e.g., pride, guilt, anxiety, embarrassment) influence their sport motivation, commitment and enjoyment.

Study Procedures: If you are willing to have your child participate in this research, you will be asked to sign this consent form. This form also asks for your child’s email and their signature, so that they can be provided with the link and password to access the online questionnaires. If your child also agrees to participate in this study, we will ask her to complete some general demographic questions and scientifically validated questionnaires on body-related thoughts and emotions, sport motivation, sport commitment, and sport enjoyment. Your child will be able to
complete the questionnaires at home in approximately 20 to 40 minutes. Your child’s completion of the online questionnaires will constitute their assent to participate in this study. Your child will be informed that she does not have to answer any question she does not feel comfortable answering. She does not have to participate in the study, even if you provide consent for her to participate. If your child wishes to withdraw from the study, she may do so at any time without having to give any reason for doing so. Withdrawing from the study will not result in any negative consequences for your child.

**Potential Risks:** There are no foreseeable risks associated with your child’s involvement in this study. This study will not subject her to any physical risk. She can refuse to answer any question and doing so will result in no penalty to her or anyone else. She can discontinue her involvement in the study at any time, again resulting in no penalty. Any data collected prior to withdrawal will be omitted from the study and destroyed. In the event that you or your child would like to further discuss feelings regarding the topics in the questionnaires, you may wish to contact Family Services of Greater Vancouver (Counselling Services: 604-874-2938).

**Potential Benefits:** There are no immediate benefits related to participation in this study. All participants will be entered into a random draw for a chance to win a Sport Chek gift card. There are 10 cards valued at $25 available to be drawn. The information we collect for this study may help to design future programs that improve female adolescents’ sport participation. A summary of the results and copies of any resulting publications will be provided at your request.

**Confidentiality:** Information gathered on the questionnaire will be used for research purposes only. There are no personal identifiers on the questionnaire. Questionnaires are identified by code number only and will be securely stored for a minimum of five years as required by the University of British Columbia guidelines. Results of this study will be analysed in group form and will be used in the preparation of a presentation and an academic research publication, all of which are public documents. A summary of the results will be available upon request. You or your child do not waive any legal rights by reading or agreeing to consent to participate in this study. Your child is free to withdraw from this study at any time with absolutely no penalty. The decision to withdraw will NOT result in any loss of services or any other negative consequences.

**Contact Information about the Study:** If you have any questions or want more information about this study, please contact the researchers using the information provided at the beginning of this form.

**Contact for Concerns about the Rights of Research Subjects:** If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598.
DECLARATION OF CONSENT

A signed copy of this consent form will be kept by the researchers and you may keep a copy for your personal records.

I have read the content of this consent form, and I agree to let my child participate in this study

Child’s name ___________________________ Date __________________

Parent’s name ___________________________ Parent’s signature __________________

Child’s email ___________________________ Child’s signature __________________

Contact Information (this information is needed if your child has won a gift card)

1. First and Last Name ______________________________________________

2. Cellphone Number ______________________________________________

3. Mailing Address (*we need your mailing address to send the gift card)
   Street Number and Street Name _________________________________
   Apt Number _______ City ____________________________ Postal Code ____________

4. Home Phone Number __________________

Please return this form in one of the following three ways:

1. Place in the envelope provided and return to your coach for the researcher to collect

2. Scan or take a photo of the form and attach it to an email sent to
   libbie.pritchard@ubc.ca

3. Mail the signed form to: Exercise and Sport Psychology Lab (Peter Crocker)
   School of Kinesiology
   ___________________________________________________________
Appendix B  Participant Assent Form

Body-related self-conscious emotions and sport participation among adolescent females

CHILD INFORMATION and ASSENT LETTER

Principal Investigator  Co-Investigator  Graduate Research Assistant
Peter Crocker, PhD                    Catherine Sabiston, PhD              Elizabeth Pritchard, BA
School of Kinesiology                Faculty of Kinesiology               School of Kinesiology
University of British Columbia       University of Toronto                  University of British Columbia

Background: Past research has shown us that girls who play sport feel better about their bodies, themselves and their friends. However, girls do not participate in sport as often as boys, so we want to find ways to help girls stay involved in sport.

The Study: You are invited to participate in this research study looking at sport participation and body-related emotional experiences in adolescent girls. We are researchers at the University of British Columbia and we would like to hear from girls enrolled in organized sport to better understand girls’ participation in sport. If you would like to participate in this study, we will ask you to complete simple questionnaires about your perceptions of physical competence, body-related emotions, sport motivation, and sport enjoyment and commitment. The online questionnaires will take about 20 to 40 minutes to complete. Also, if you wish to withdraw from the study, you may do so at any time without having to give any reason for doing so. Withdrawing from the study will not result in any negative consequences for you. To compensate you for your time, you will be entered in a random draw for one of 10 $25 Sport Chek gift cards. We will ask for your contact information on the parental consent form, which will only be used to contact you if you have won a gift card. No personal identifier information (e.g., your name) will be required on the questionnaire, so your answers are anonymous.

Potential Benefits and Risks: You may or may not directly benefit from participating in this study. However, we hope that the information from this study will improve future sport participation outcomes for girls. If there are any questions you don’t want to answer, you can skip them. If your emotions or thoughts regarding any questions in the questionnaires are concerning you or make you feel anxious or upset, we recommend speaking to your parents, or you may wish to contact Family Services of Greater Vancouver (Counselling Services: 604-874-2938).

Confidentiality: Your privacy is very important to us. We will not share your responses with your parents or your coach. No one will know how you answered the questions. We will not tell your parents or coaches whether you participated in the study or not. All your answers will be kept confidential, and only the researchers will have access to the information.
Contact Information about the Study: If you have any questions or want more information about the study please contact either Dr. Crocker or Ms. Pritchard using the information provided on the first page.

Contact for Concerns about the Rights of Research Subjects: If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598.

DECLARATION OF CONSENT

Completion of the online questionnaires will indicate your assent to participate in this study.
Appendix C Information for Sport Organizations

Body-related self-conscious emotions and sport participation among adolescent females

Research Project Opportunity for Your Sport Organization

Principal Investigator | Co-Investigator | Graduate Research Assistant
--- | --- | ---
Peter Crocker, PhD | Catherine Sabiston, PhD | Elizabeth Pritchard, BA
School of Kinesiology | Faculty of Kinesiology | School of Kinesiology
University of British Columbia | University of Toronto | University of British Columbia

Researchers from the University of British Columbia are conducting a research study to examine adolescent girls’ (13-17 years) experiences and well-being in sport. In particular we are investigating relationships among body image factors related to emotions, perceptions of competence and sporting outcomes such as sport motivation, commitment and enjoyment. We are requesting permission to recruit research participants from your sport organization. If you are interested in having your sport organization be part of this study, we will ask for permission to contact coaches of teams that meet the research criteria (i.e., females between the ages of 13 and 17). We will make specific time and date arrangements with coaches to present the opportunity to participate to the athletes. Participation in this study will consist of girls completing age appropriate measures regarding their thoughts, emotions, and perceptions regarding their physical self as well as measures related to motivation, commitment and enjoyment. The participants would complete the study at home through an online survey.

This research is being conducted because current research findings show that participation in sport in girls has been linked to positive body image, positive self-esteem, enhanced peer relationships and social skills, and overall positive youth development. Unfortunately, girls consistently report lower rates of sport participation and are less likely to enjoy and continue in sport compared to boys. These findings suggest the important implications of conducting sport research to promote healthy active living in young girls. By learning more about how body image related thoughts and emotions impact sport participation, this study could have future benefits for girls involved in sport. Participation in this study is completely voluntary and will not impact participation in the sport. Additionally, girls can withdraw from the study at ANY POINT IN TIME without any consequences.

Name of sporting organization: _______________________________

Do we have your permission to speak with your team about this research opportunity?

YES

NO

Name of coach / administrator: ___________________________ Date_________________
Body-related self-conscious emotions and sport participation among adolescent females

QUESTIONNAIRES

Thank you for agreeing to participate in this research project!

Your name is not required anywhere in this survey and all answers are confidential.

There are no “right” or “wrong” answers. Some of the questions may seem similar, so please read each question carefully.

Please be as honest and as accurate as you can in answering each question. You do not have to answer any questions that make you feel uncomfortable or that you do not wish to answer, and you may withdraw from this study at any point in time by closing the internet browser.

If you would like to further discuss feelings about the topics in this survey, you may wish to contact Kids Help Phone by calling 1-800-668-6868 or by texting CONNECT to 686868.

Completion of these questionnaires will indicate your assent (agreement) to participate in this study.
D.1 Demographics

Demographics

1. What is your current age in years? ________
2. Height (in feet and inches): ______________
3. Weight (in pounds): ________________
4. What grade are you in at school? __________
5. How would you describe your ethnic background?
   - White/Caucasian
   - Chinese
   - Japanese
   - Korean
   - Aboriginal/First Nation (e.g., North American Indian, Metis, Inuit)
   - Latin American
   - South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)
   - South East Asian (e.g., Cambodian, Indonesian, Vietnamese)
   - Black (e.g., African, Haitian, Jamaican, Somali)
   - West Asian/Middle East (e.g., Afghani, Arab, Iranian)
   - Other, please specify: ______________________
6. Please indicate the highest level of education for each of your parents.
   - Mother
     - Some high school
     - High school
     - Some college
     - College
     - Some university
     - University
     - Don’t know
   - Father
     - Some high school
     - High school
     - Some college
     - College
     - Some university
     - University
     - Don’t know
7. What sport were you recruited from? (i.e. What sport were you playing when the researcher came to talk to your team?)_________________________
8. What is the name of the team that you were recruited from? (e.g. U15 Panthers Soccer Team or Sharks Swim Club)_________________________
9. How many months/years have you played the sport that you were recruited from? __________________________________
10. Please list all the other sports you currently play or have played within the past year.
    ____________________________________________________
### Body-Related Emotions in Sport

We are interested in sport participants’ emotions in sport. Listed below are a variety of statements. Please indicate how often you have generally experienced the emotion while playing your sport. There are no ‘right’ or ‘wrong’ answers. Instructions: Select the number that most applies to how you **USUALLY feel in the sport you were recruited from for this study.** Please note that some questions may seem similar, please read each question carefully.

<table>
<thead>
<tr>
<th></th>
<th>NEVER</th>
<th>RARELY</th>
<th>SOMETIMES</th>
<th>FREQUENTLY</th>
<th>ALWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inferior when I think about my appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Guilty that I do not do enough for my fitness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ashamed about what my body can do physically</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud of the effort I place on my fitness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Foolish when my fitness levels are visible to others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Frustrated to see some people who have great fitness with little effort and training</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud that I am a great looking person</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Inadequate when I think about my appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Regret that I do not work on improving my fitness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud about my effort to improve the way I look</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Inferior when I think about my fitness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud of myself when I compare my fitness to others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Nervous when I think about others seeing my appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ashamed that I am unfit</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud of the effort I place on maintaining my appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>NEVER</td>
<td>RARELY</td>
<td>SOMETIMES</td>
<td>FREQUENTLY</td>
<td>ALWAYS</td>
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<td>--------------------------</td>
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<td>--------</td>
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<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Proud that I am more physically fit than others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Regret that I do not take action to improve my fitness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Unfair that some people have the “perfect” appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud that I have achieved my appearance goals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Embarrassed about my appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Inadequate when I think about my fitness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Envious about others’ fitness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud of my appearance efforts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Awkward when I am trying to improve my fitness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud that I am a person who is fit</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ashamed that I am unattractive</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Guilty that I do not do enough to improve the way I look</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Frustrated to see some people who have great appearance with little effort</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Embarrassed when others see my fitness level</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud of my fitness accomplishments</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Regret that I do not put effort into my appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>NEVER</td>
<td>RARELY</td>
<td>SOMETIMES</td>
<td>FREQUENTLY</td>
<td>ALWAYS</td>
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<td>-------</td>
<td>--------</td>
<td>-----------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Guilty that I do not do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>enough to improve my fitness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ashamed of the way I look</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud that I am more</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>attractive than others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foolish when my body and</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>appearance are on display</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inadequate about my fitness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfair that some people are so physically fit</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud of my superior fitness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud of my fitness efforts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ashamed of my appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Guilty that I look the way I do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Awkward when I am trying to improve my appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud of my superior appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Regret that I do not work on improving my appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Envious about others’ appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud about my effort to improve my fitness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Nervous when I have to show my physical fitness to others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud that I am an attractive person</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
D.3 Social Physique Anxiety

Physique Emotions in Sport

The following questionnaire contains statements concerning your body physique or figure in sport. By physique or figure we mean your body’s shape and structure; specifically, body fat, muscular tone, and general body proportions.

Instructions: Read each item carefully and indicate how characteristic it is of you according to the following scale. Answer the questions while thinking about the sport that you were recruited from for this study.

1 = Not at all characteristic of me
2 = Slightly characteristic of me
3 = Moderately characteristic of me
4 = Very characteristic of me
5 = Extremely characteristic of me

<table>
<thead>
<tr>
<th></th>
<th>1 Not at all</th>
<th>2 Slightly</th>
<th>3 Moderately</th>
<th>4 Very</th>
<th>5 Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am comfortable with the appearance of my physique/figure in my sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>When I look in the mirror I feel good about my physique/figure in my sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>It would make me uncomfortable to know others were evaluating my physique/figure in my sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>I am comfortable with how fit my body appears to others in my sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>I usually feel relaxed when it is obvious that others are looking at my physique/figure in my sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
D.4 Physical Self-Concept

Physical Self-Concept

The following statements will ask you to think about yourself physically. There are no right answers, and everyone will have different answers. Be sure that your answers show how you feel about yourself.

Instructions: Listed below are a variety of statements, please indicate how much you agree with each statement. **Answer each sentence quickly, as you feel now.**

<table>
<thead>
<tr>
<th></th>
<th>1 False</th>
<th>2 Mostly False</th>
<th>3 More false than true</th>
<th>4 More true than false</th>
<th>5 Mostly True</th>
<th>6 True</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am satisfied with the kind of person I am physically</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Physically, I am happy with myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>I feel good about the way I look and what I can do physically</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Physically, I feel good about myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>I feel good about who I am and what I can do physically</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>I feel good about who I am physically</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
D.5 Perceived Athletic Competence

### Perceived Athletic Competence

The following statements will ask you to think about how competent you feel **while playing the sport you were recruited from for this study**.

Instructions: For each of the following statements, please indicate how true it is for you.

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I think I am pretty good at my sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>I think I do pretty well at my sport compared to other players</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>After playing my sport for a while, I felt pretty competent</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>I am satisfied with my performance at my sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>I am pretty skilled at my sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>I can’t play my sport very well</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
D.6 Sport Commitment and Enjoyment

Sport Commitment and Enjoyment

Below are a number of statements that asks you to think about how you feel about the sport that you were recruited from for this study.

Instructions: Please indicate how much you agree/disagree with each statement.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither agree or disagree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am determined to keep playing this sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Playing this sport is very pleasurable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>I feel trapped in this sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>I am dedicated to keep playing this sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>I am very attached to this sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>I love to play this sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>Playing this sport makes me happy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>Although I think about quitting this sport, I feel I must keep playing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>I feel I have to keep playing this sport, even though I don’t want to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>I am willing to do almost anything to keep playing this sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>I like playing this sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>Playing this sport is fun</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13</td>
<td>I feel I am forced to keep playing this sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
D.7  Sport Motivation

**Sport Motivation: Why do you practice and play your sport?**

Please think about why you practice and play your sport and respond to the statements below. Instructions: Please indicate to what extent each of the following items corresponds to one of the reasons why you are currently practicing and playing your sport (the sport you were recruited from for this study).

<table>
<thead>
<tr>
<th>Does not correspond at all</th>
<th>Corresponds very little</th>
<th>Corresponds a little</th>
<th>Corresponds moderately</th>
<th>Corresponds quite a bit</th>
<th>Corresponds quite a lot</th>
<th>Corresponds completely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>Very little</td>
<td>A little</td>
<td>Moderately</td>
<td>Quite a bit</td>
<td>Quite a lot</td>
</tr>
<tr>
<td>1  Because I would feel bad about myself if I did not take the time to do it</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2  I used to have good reasons for doing this sport but now I am asking myself if I should continue</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3  Because it is very interesting to learn how I can improve</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4  Because practicing this sport reflects the essence of who I am</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5  Because people I care about would be upset with me if I did not</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6  Because I found it is a good way to develop aspects of myself that I value</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7  Because I would not feel worthwhile if I did not</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8  Because I think others would disapprove of me if I did not</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9  Because I find it enjoyable to discover new performance strategies</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 I don’t know anymore: I have the impression that I am incapable of succeeding in this sport</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Because participating in this sport is an integral part of my life</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Because I have chosen this sport as a way to develop myself</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 It is not clear to me anymore; I don’t really think my place is in this sport</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Because through this sport, I am living in line with my deepest principles</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 Because people around me reward me when I do</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 Because I feel better about myself when I do</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 Because it gives me pleasure to learn more about this sport</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 Because it is one of the best ways I have chosen to develop other aspects of myself</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix E Additional Correlations

E.1 Correlations Between Appearance-Related Emotions and Motivational Sport Experiences

Table 14: Correlations between appearance-related emotions and motivational sport experiences

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A-Em.</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. A-Envy</td>
<td>.78**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. A-AP</td>
<td>-.56**</td>
<td>-.40**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. A-HP</td>
<td>-.58**</td>
<td>-.41**</td>
<td>.76**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. A-Guilt</td>
<td>.77**</td>
<td>.66**</td>
<td>-.49**</td>
<td>-.44**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. A-Sh.</td>
<td>.87**</td>
<td>.79**</td>
<td>-.59**</td>
<td>-.61**</td>
<td>.75**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. SPA</td>
<td>-.70**</td>
<td>-.61**</td>
<td>.61**</td>
<td>.68**</td>
<td>-.63**</td>
<td>-.67**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. En.SC</td>
<td>-.27**</td>
<td>-.22*</td>
<td>.42**</td>
<td>.37**</td>
<td>-.24*</td>
<td>-.30**</td>
<td>.31**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Con.SC</td>
<td>.30**</td>
<td>.28**</td>
<td>-.22*</td>
<td>-.19*</td>
<td>.31**</td>
<td>.27**</td>
<td>-.24*</td>
<td>-.48**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>10. Cont.</td>
<td>.12</td>
<td>.19**</td>
<td>-.05</td>
<td>-.03</td>
<td>.20*</td>
<td>.15</td>
<td>-.04</td>
<td>-.06</td>
<td>.50**</td>
<td>-</td>
</tr>
<tr>
<td>11. Auto.</td>
<td>-.33**</td>
<td>-.28**</td>
<td>.38**</td>
<td>.43**</td>
<td>-.21*</td>
<td>-.33**</td>
<td>.44**</td>
<td>-.61**</td>
<td>-.28**</td>
<td>.24*</td>
</tr>
</tbody>
</table>

Note. A = appearance-related emotion, Em. = embarrassment, HP = hubristic pride, AP = authentic pride, Sh. = shame, En.SC = enthusiastic sport commitment, Con.SC = constrained sport commitment, Cont. = controlled motivation, Auto. = autonomous motivation.

* p < .05, ** p < .01.
Appendix F  Additional Moderation Models

F.1  Stepwise Regression Analyses for Negative Fitness-Related Emotions and Positive Motivational Sport experiences

Table 15: Stepwise regression analysis for negative fitness-related emotions and enthusiastic sport commitment

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>F</th>
<th>df</th>
<th>p</th>
<th>Adj. R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Model</td>
<td>19.92</td>
<td>.81</td>
<td>24.57</td>
<td>.000</td>
<td>14.89</td>
<td>1.105</td>
<td>.000</td>
<td>.116</td>
<td></td>
</tr>
<tr>
<td>F-Em.</td>
<td>-.30</td>
<td>.08</td>
<td>-.35</td>
<td>-3.86</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was enthusiastic sport commitment. F-Em. = fitness-related embarrassment

Table 16: Stepwise regression analysis for negative fitness-related emotions and autonomous sport motivation

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>F</th>
<th>df</th>
<th>p</th>
<th>Adj. R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Model</td>
<td>54.37</td>
<td>2.72</td>
<td>20.00</td>
<td>.000</td>
<td>15.00</td>
<td>1.104</td>
<td>.000</td>
<td>.118</td>
<td></td>
</tr>
<tr>
<td>F-Shame</td>
<td>-1.11</td>
<td>.29</td>
<td>-.36</td>
<td>-3.87</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was autonomous sport motivation. F-Shame = fitness-related shame

F.2  Moderated Regression Analyses Including Negative Fitness-Related Emotions, Positive Motivational Sport Experiences and Perceived Athletic Competence

Table 17: Moderated regression analysis for fitness-related embarrassment, perceived athletic competence and enthusiastic sport commitment

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>B</th>
<th>df</th>
<th>β</th>
<th>R² change</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Overall</td>
<td>16.98</td>
<td>2,104</td>
<td>.167</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Em.</td>
<td>-.21</td>
<td></td>
<td>-.24</td>
<td>.020</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAC</td>
<td>.11</td>
<td></td>
<td>.24</td>
<td>.023</td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>Overall</td>
<td>17.03</td>
<td>3,103</td>
<td>.002</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Em.</td>
<td>-.20</td>
<td></td>
<td>-.24</td>
<td>.022</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAC</td>
<td>.10</td>
<td></td>
<td>.22</td>
<td>.054</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Em.*PAC</td>
<td>.01</td>
<td></td>
<td>.05</td>
<td>.622</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was enthusiastic sport commitment. F-Em. = fitness-related embarrassment, PAC = perceived athletic competence
Table 18: Moderated regression analysis for fitness-related shame, perceived athletic competence and autonomous sport motivation

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>B</th>
<th>df</th>
<th>β</th>
<th>R² change</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Overall</td>
<td>44.45</td>
<td>2,103</td>
<td>.161</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Shame</td>
<td>-.75</td>
<td></td>
<td>-.24</td>
<td>.027</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAC</td>
<td>.37</td>
<td></td>
<td>.22</td>
<td>.041</td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>Overall</td>
<td>44.46</td>
<td>3,102</td>
<td>.000</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Shame</td>
<td>-.75</td>
<td></td>
<td>-.24</td>
<td>.028</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAC</td>
<td>.36</td>
<td></td>
<td>.22</td>
<td>.059</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Shame*PAC</td>
<td>-.00</td>
<td></td>
<td></td>
<td>.981</td>
<td></td>
</tr>
</tbody>
</table>

Note. The dependent variable for the regression was autonomous sport motivation. F-Shame = fitness-related shame, PAC = perceived athletic competence

F.3 Moderated Regression Analyses Including Negative Fitness-Related Emotions, Positive Motivational Sport Experiences and Physical Self-Concept

Table 19: Moderated regression analysis for fitness-related embarrassment, physical self-concept and enthusiastic sport commitment

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>B</th>
<th>df</th>
<th>β</th>
<th>R² change</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Overall</td>
<td>16.98</td>
<td>2,104</td>
<td>.167</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Em.</td>
<td>-.14</td>
<td></td>
<td>-.16</td>
<td>.195</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSC</td>
<td>.12</td>
<td></td>
<td>.28</td>
<td>.023</td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>Overall</td>
<td>17.09</td>
<td>3,103</td>
<td>.003</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Em.</td>
<td>-.12</td>
<td></td>
<td>-.14</td>
<td>.264</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSC</td>
<td>.12</td>
<td></td>
<td>.27</td>
<td>.029</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Em.*PSC</td>
<td>.01</td>
<td></td>
<td>.06</td>
<td>.521</td>
<td></td>
</tr>
</tbody>
</table>

Note. The dependent variable for the regression was enthusiastic sport commitment. F-Em. = fitness-related embarrassment, PSC = physical self-concept
Table 20: Moderated regression analysis for fitness-related shame, physical self-concept and autonomous sport motivation

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>$B$</th>
<th>$df$</th>
<th>$\beta$</th>
<th>$R^2$ change</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Overall</td>
<td>44.39</td>
<td>2,103</td>
<td>.215</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Shame</td>
<td>-.13</td>
<td></td>
<td>-.04</td>
<td>.752</td>
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</tr>
<tr>
<td></td>
<td>PSC</td>
<td>.66</td>
<td></td>
<td>.43</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>Overall</td>
<td>44.25</td>
<td>3,102</td>
<td>.000</td>
<td>.000</td>
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</tr>
<tr>
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<td></td>
<td>-.04</td>
<td>.736</td>
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<tr>
<td></td>
<td>PSC</td>
<td>.66</td>
<td></td>
<td>.44</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-Shame*PSC</td>
<td>-.01</td>
<td></td>
<td>-.02</td>
<td>.819</td>
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</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was autonomous sport motivation. F-Shame = fitness-related shame, PSC = physical self-concept

F.4 Moderated Regression Analyses for Fitness-Related Authentic Pride and Positive Motivational Sport Experiences

Table 21: Moderated regression analysis for fitness-related authentic pride, physical self-concept and enthusiastic sport commitment

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>$B$</th>
<th>$df$</th>
<th>$\beta$</th>
<th>$R^2$ change</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Overall</td>
<td>16.98</td>
<td>2,104</td>
<td>.221</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-AP</td>
<td>.35</td>
<td></td>
<td>.37</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSC</td>
<td>.05</td>
<td></td>
<td>.13</td>
<td>.308</td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>Overall</td>
<td>17.05</td>
<td>3,103</td>
<td>.001</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-AP</td>
<td>.35</td>
<td></td>
<td>.38</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSC</td>
<td>.05</td>
<td></td>
<td>.11</td>
<td>.399</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-AP*PSC</td>
<td>-.00</td>
<td></td>
<td>-.04</td>
<td>.687</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The dependent variable for the regression was enthusiastic sport commitment. F-AP = fitness-related authentic pride, PSC = physical self-concept
Table 22: Moderated regression analysis for fitness-related authentic pride, physical self-concept and autonomous sport motivation

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>B</th>
<th>df</th>
<th>β</th>
<th>$R^2$ change</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Overall</td>
<td>44.40</td>
<td>2,103</td>
<td>.268</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-AP</td>
<td>1.07</td>
<td>.33</td>
<td>.007</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSC</td>
<td>.35</td>
<td>.23</td>
<td>.055</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>Overall</td>
<td>43.93</td>
<td>3,102</td>
<td>.005</td>
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<td></td>
<td>F-AP</td>
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<td>.32</td>
<td>.008</td>
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<tr>
<td></td>
<td>PSC</td>
<td>.39</td>
<td>.26</td>
<td>.039</td>
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<td>F-AP*PSC</td>
<td>.03</td>
<td>.07</td>
<td>.417</td>
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Note. The dependent variable for the regression was autonomous sport motivation. F-AP = fitness-related authentic pride, PSC = physical self-concept.