

**Understanding Sport Participation Motivation In Early Adolescent  
Females: The Role Of Friendship And Physical Self-Perceptions**

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**ABSTRACT**

The purpose of this study was to examine the role of sport friendship quality, athletic competence and attractiveness perceptions, global self-worth, and sport enjoyment in predicting motivation to participate in sport among young adolescent female sport participants. Two hundred and twenty-nine female team sport participants between the ages of eleven and fourteen participated in this study. Participants completed the athletic competence, physical attractiveness, and self-worth subscales of the Self-Perception Profile for Children (Harter, 1985), the Sport Friendship Quality Scale (Weiss & Smith, 1999), the sport enjoyment and sport commitment subscales of the Sport Commitment Model (Scanlan, Simons, Carpenter, Schmidt, & Keeler, 1993), and two items assessing intention to return to the present sport and sport in general. Sport enjoyment and intention to return means were very high and the distributions highly skewed, indicating that participants enjoy sport and are highly motivated to continue playing, but also made determine predictors and outcomes of these variables difficult. Correlational and multiple regression analysis suggested that self-worth was predicted primarily by physical attractiveness perceptions, with athletic competence perceptions making a minor contribution. Sport enjoyment was partially predicted by having things in common with one's best sport friend. Sport enjoyment predicted sport commitment and intentions to return. No relationship was found between self-worth and sport enjoyment. A path analysis of two models of participation motivation found that neither model fit the data well. Model modification procedures were undertaken to find a more parsimonious model and to identify potential relationships for future research. This study did not provide strong support for a predictive role of sport friendship quality and physical self-

perceptions in predicting sport enjoyment and motivation, or for a model where self-esteem is a separate outcome of antecedents of motivation, rather than a mediating variable. The lack of variance on enjoyment and motivation variables greatly limited the ability of this study to determine predictors and outcomes of sport enjoyment and motivation. Future studies examining other aspects of youth peer relationships in sport are needed to explore their effects on sport related affect, motivation, and self-worth.

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## CHAPTER 1

### 1.1 INTRODUCTION

Physical activity participation rates among children and adolescents are of concern given the potential benefits of an active lifestyle and the trend towards decreasing physical activity with increasing age. An active lifestyle is associated with numerous physiological health and psychosocial adjustment benefits (Bouchard, Shephard, & Stephens, 1993; Fox, Boutcher, Faulkner, & Biddle, 2000; Powers & Dodd, 1997; Stofan, DiPietro, Davis, Kohl, & Blair, 1998). Participation among children in particular has the potential to provide numerous benefits including skill learning, positive self-esteem, coping abilities, empathy, friendships (Weiss, 1995), and improved physiological, anatomical, biochemical, and physical health (Rowland, 1990). Despite the potential benefits of a physically active lifestyle, 57 percent of Canadian youth between the ages of five and seventeen are not active enough to receive optimal health benefits (Craig, Cameron, Russell, & Beaulieu, 2001). In addition, participation rates in sport, one of the primary vehicles of physical activity among youth, decline between ages ten and eighteen, with the sharpest drop-off occurring among eleven to thirteen year-olds (Craig, et al. 2001; Petlichkoff, 1992; Weiss & Petlichkoff, 1989). In order to address the issue of low physical activity rates and the subsequent health and psychosocial adjustment implications for youth, it is critical to understand how and why youth are motivated to participate in sport activities.

Declining sport participation rates among young adolescents is of particular concern for young females, as boys are consistently reported to be more active than girls (Craig, et

al., 2001; Crocker, Bailey, Faulkner, Kowalski, & McGrath, 1997; Janz, Dawson, & Mahoney, 2000; Ross & Pate, 1987; Sallis, 1994). There is a body of literature examining gender differences in sport participation, but there is a tendency to focus on how differences in socialization influences lead to gender differences in participation (Eccles & Harold, 1991; Gill, 1992; Greendorfer, 1987; 1992). However, there is more individual variation in activity among girls than there is between boys and girls as a group. The mechanisms by which physical activity motivation develops and is maintained or changed at an individual level need to be further explored.

Harter's (1978; 1982) theory of effectance motivation provides a framework through which to examine sport participation motivation. Youth who feel successful in sport and see it as a valuable pursuit will be motivated to continue participating (Harter, 1999). To date, most of the focus has been on how perceptions of physical competence or success contribute to participation motivation. In descriptive studies, however, children and adolescents have identified a wide range of reasons for participating in sport including learning and improving skills, affiliation, fitness, and fun (Weiss & Petlichkoff, 1989). Research has shown that young adolescents who see themselves as physically or socially successful in sport are motivated to continue participation for skill development and social affiliation reasons respectively (Klint & Weiss, 1987; Weiss, McAuley, Ebbeck, & Wiese, 1990). To keep young people active in sport it is crucial to understand how these two mechanisms influence motivation.

The purpose of this study is to examine how physical self-perceptions and sport friendship quality contribute to motivation to participate in sport in young adolescent female athletes.

## **1.2 REVIEW OF LITERATURE**

### **1.2.1 Participation Motivation**

Participation motivation is an individual's drive to take part in sport or physical activities. It is a broad construct encompassing factors influencing initiation, continuation, and withdrawal from sport and physical activities (Weiss & Petlichkoff, 1989). It includes both behavioral elements such as current participation, intensity, and persistence and cognitions such as commitment and future expectancies. Participation motivation also has strong ties to affective constructs, particularly sport enjoyment.

### **1.2.2 Effectance Motivation**

Harter's (1978, 1982) theory of effectance motivation provides a theoretical framework to examine children's and adolescents' motivation. Basically, this theory holds that if an individual perceives herself to be competent in a particular activity, and she sees competence in that activity as valuable or important, she will be motivated to continue participating in that activity. How an individual assesses her level of competence and the perceived value of the activity is integrated with the development of the self.

### **1.2.3 The Development of the Self**

Harter's (1982) multidimensional structure of the self proposes that people have a number of domains that comprise their sense of self. Perceptions of competence and value in these domains contribute to feelings of self-worth or self-esteem, and motivation to continue pursuing activities in that domain. How the domains of the self are organized depends upon the individual's development. Preschool age children have self-perceptions that focus on concrete skills. They have perceptions of their competence in particular skills, but these perceptions are typically unrealistically positive, and are not coordinated or organized into more complex self-perceptions (Harter, 1999). Beginning in middle childhood (age seven to ten) children demonstrate concrete operational thought, and are able to coordinate various related features into specific aspects of self (Harter, 1999; Santrock 1996). For example, they can coordinate their perceptions of how good they are at running, climbing, and jumping into a sense of whether they are good at physical tasks (Harter, 1999). In middle to late childhood (ages eight to eleven) children develop the cognitive ability to make higher-order generalizations that incorporate several lower-order domains (Harter, 1999). At this stage, children's sense of self is differentiated into five domains contributing to their global self: scholastic competence, athletic competence, physical appearance, social acceptance, and behavioral conduct (Harter, 1985) (see Figure 1).

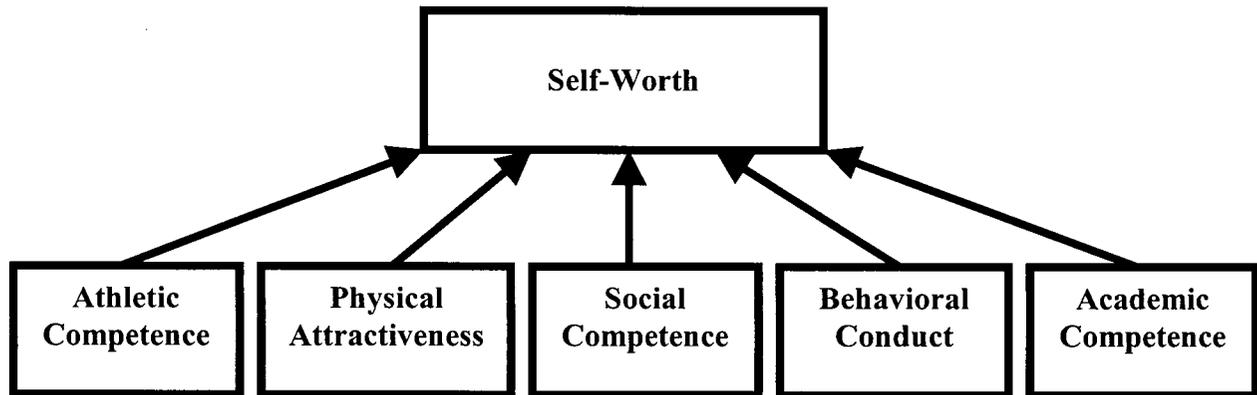


Figure 1 The Self-Perception Model for Children (based on Harter, 1985)

As children mature cognitively, they display more abstract thought and differentiation of their sense of self (Harter, 1999). During adolescence, the number of domains that compose the self increases to include job competence, close friendship and romantic appeal (Harter, 1988).

### **1.2.3.1 The Competence-Importance Discrepancy**

A key to Harter's theory is that perceptions of competence in a particular domain will enhance self-worth if the individual values competence in that domain (Harter, 1999). For example, if an adolescent sees herself as having exceptional athletic skills and values competence in sports, she will have high perceptions of self-worth. If she perceives her athletic competence is low and values sport, her self-worth will be low. If she perceives sport to be unimportant, however, her perceptions of her athletic competence, whether high or low, will have no impact on her self-worth. Therefore, self-worth is affected by both the person's perceptions of competence and perceptions of value in each of the five domains in children (Harter, 1999).

### **1.2.3.2 Sources Of Competence Information**

Children and adolescents use three main sources of information to assess competence: social comparison and evaluation, self-referenced criteria, and adult evaluation (Weiss, Ebbeck, & Horn, 1997). Very young children rely primarily on adult feedback, but by middle childhood they begin to make preliminary comparisons of their abilities against their peers. Peer comparison becomes more sophisticated as children develop perspective-taking abilities and the understanding that other people have their own view

of them and their behaviors (Harter, 1999). Peer comparison is the primary means used to assess competence until late adolescence when an individual's ability to evaluate and select among alternative viewpoints leads to the increased use of self-referenced criteria (Harter, 1999). Given the increasing use of peer comparison and evaluation during late childhood and early adolescence, it is expected that self-esteem is particularly sensitive to variations in peer comparisons and perceived peer evaluations of the self during this developmental period.

### **1.2.3.3 The Value of Competence**

The perceived value of competence in various domains may also change with development. Socializing agents such as parents, peers, teachers, coaches, and socializing institutions such as schools, churches, sport organizations and the media are the primary influences on children's developing values. Parents are the most salient socializing agent for very young children and continue to be a potent socializing agent throughout adolescence (Horn & Hasbrook, 1986). As children develop their social networks expand to include more non-family members as they are exposed to more non-family social settings such as school and sport activities on a regular basis (Feiring & Lewis, 1989), thereby increasing the socialization influence of peers in late childhood and early adolescence. For young adolescents, peers play an increasing role in influencing the value placed on particular domains. Thus, it is expected that adolescent girls whose peers value competence in sport activities will be more likely to adopt the same values.

#### **1.2.4 Models of Motivation**

Harter (1987) has gone beyond the basic theory of effectance motivation and developed a model of motivation. Her model suggests that discrepancies between perceptions of competence and importance in each domain and social support/positive regard contribute to perceptions of self-worth, which, in turn, lead to affect and motivation (see Figure 2).

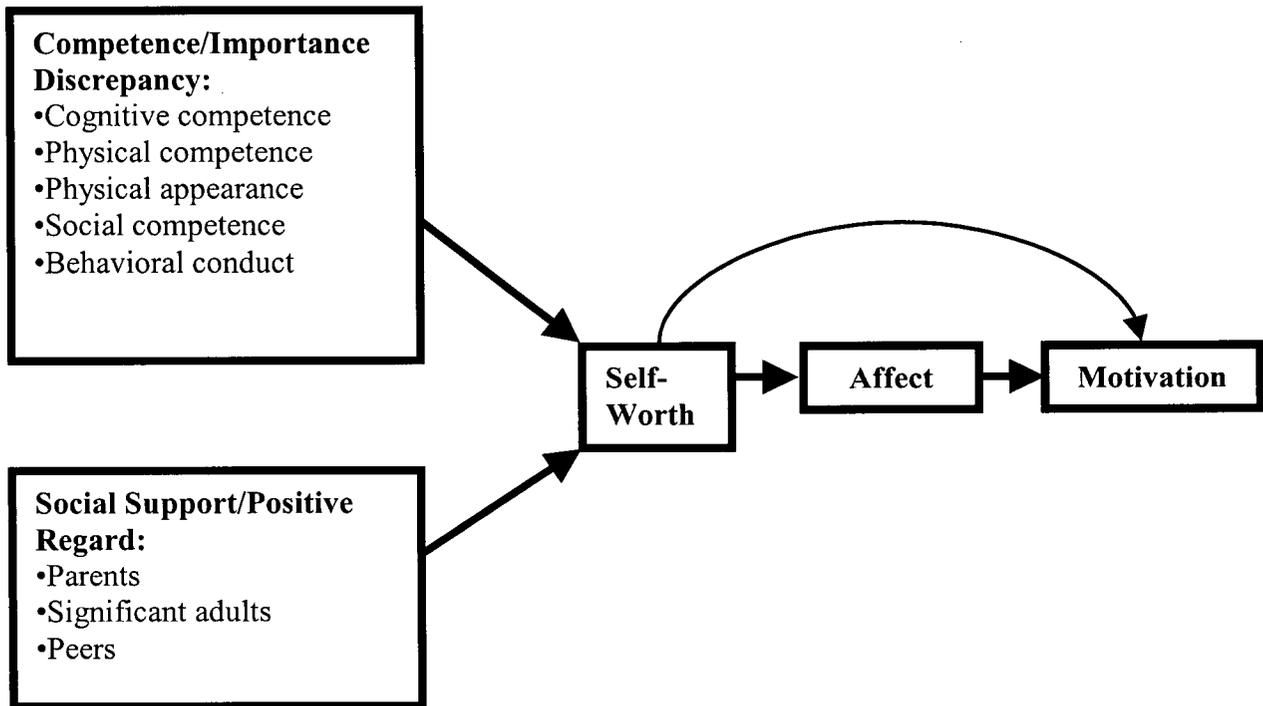


Figure 2 Mediational Model of Self-Worth (from Harter, 1987)

Harter found support for this model as compared to an alternative model where self-worth was a separate outcome, not a mediator (Harter, 1987); however, the basis on which this decision was made was not published.

#### **1.2.4.1 Motivation in Sport**

Weiss and her colleagues (Weiss, 2000; Weiss & Ebbeck, 1996) adapted Harter's (1987) mediational model of self-worth to explain motivated behavior in the physical domain. Their model suggests that perceptions of physical competence and social support predict self-esteem, which in turn predicts both sport enjoyment and physical activity behavior (see Figure 3).

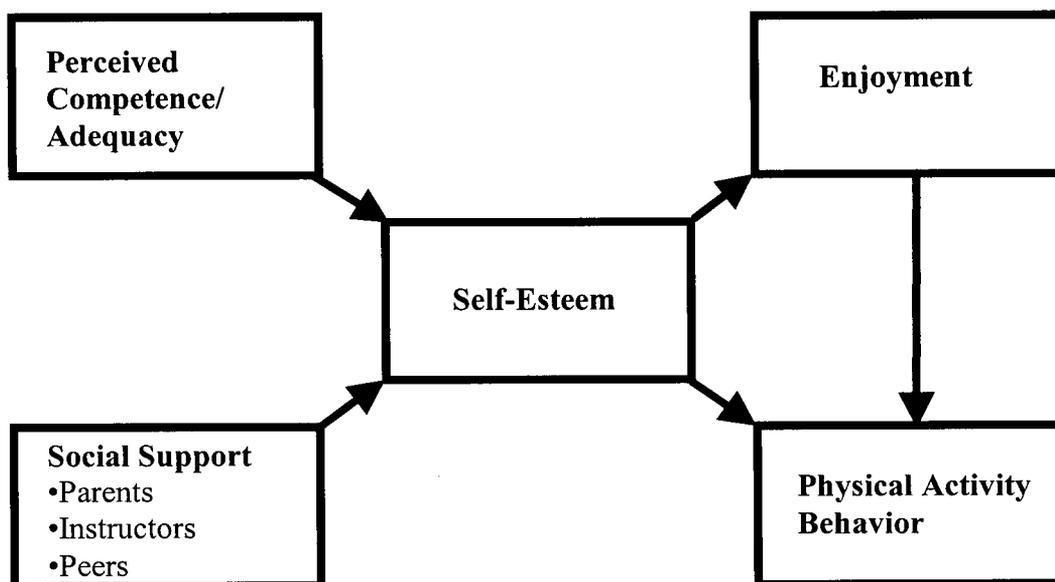


Figure 3 Mediational Model of Global Self-Esteem Customized for the Physical Domain (Weiss, 2000)

### **1.2.5 The Role of Self-Worth in Predicting Participation Motivation**

While this comprehensive model has not been tested, empirical evidence in the sport literature suggests problems with the proposed role of self-esteem in this model. Weiss & Ebbeck (1998) found two models where affect was either an antecedent or an outcome of physical competence to be equally viable. Both Duncan's (1993) and Smith's (1999) works found that the activity-specific physical competence and social support/regard perceptions predict physical activity motivation and behavior better than global self-worth.

These findings seem to be at odds with Harter's (1987) model and the sport-adapted version by Weiss and colleagues (Weiss, 2000; Weiss & Ebbeck, 1996). If specific lower-order constructs related to physical competence are better predictors of physical activity motivation and behavior than higher-order constructs such as physical self-worth and self-esteem, then a model where self-worth mediates the relationship between perceived competence and social support, and enjoyment and activity behavior is not supported. If this is indeed the case, research and practices based on the assumption that self-worth plays a critical role in predicting participation motivation may be misleading.

The key to the discrepancies between Harter's (1987) work that supported her model and the conflicting evidence in the sport context may be rooted in the adaptation of Harter's original model to the sport domain. In her original work, Harter (1987) used a generalized measure of affect or mood to measure affect, and a general measure of motivation to engage in age-appropriate activities. Since her affect and motivation

measures were global in nature, it makes intuitive sense that the global measure of self-worth predicted those outcomes. However, when this model was applied to the sport domain, parallel substitutions of constructs in the model were not made. Perceived physical competence and social support should directly predict enjoyment and physical activity behavior because these constructs are on the same hierarchical level. Harter's (1987) model began with lower-order constructs (perceived competence and social support in all domains) predicting a higher-order global construct (self-esteem) that subsequently predicted global measures of enjoyment and motivation. Weiss & Ebbeck's (1996) adaptation of this model has two sport-specific lower-order constructs predicting the higher-order global construct of self-esteem, and then going back down the hierarchical ladder to the domain-specific constructs of sport enjoyment and physical activity behavior. More research is needed to examine whether self-worth plays a central role in the participation motivation process or if it is simply an outcome of physical competence and social relationship perceptions in sport.

### **1.2.6 Physical Self-Perceptions**

In accordance with these models of motivation, physical competence perceptions have been linked to physical activity participation. Descriptive studies consistently cite skill improvement and experiencing success as major motives for youth sport involvement (Weiss & Petlichkoff, 1989). Youth sport participants tend to have higher physical competence perceptions than both non-participants (Roberts, Kleiber, & Duda, 1981) and dropouts (Feltz & Petlichkoff, 1983). Youth who perceive themselves to be successful at sport skills have higher future expectations for success in sport than those who perceive

themselves to be unskilled, leading to higher motivation and continued participation (Klint & Weiss, 1987; Weiss, McAuley, Ebbeck, & Wiese, 1990).

Harter's work made great strides in furthering the research on motivation and self-concept using a multidimensional theoretical conception. Fox and Corbin (1989) extended this idea in the physical domain. They proposed a multidimensional, hierarchical model of the physical self, with general self-concept at the apex, influenced by self-perceptions including physical self-worth, and physical self-worth further differentiated into sport competence, attractive body, physical strength, and physical condition perceptions (see Figure 4).

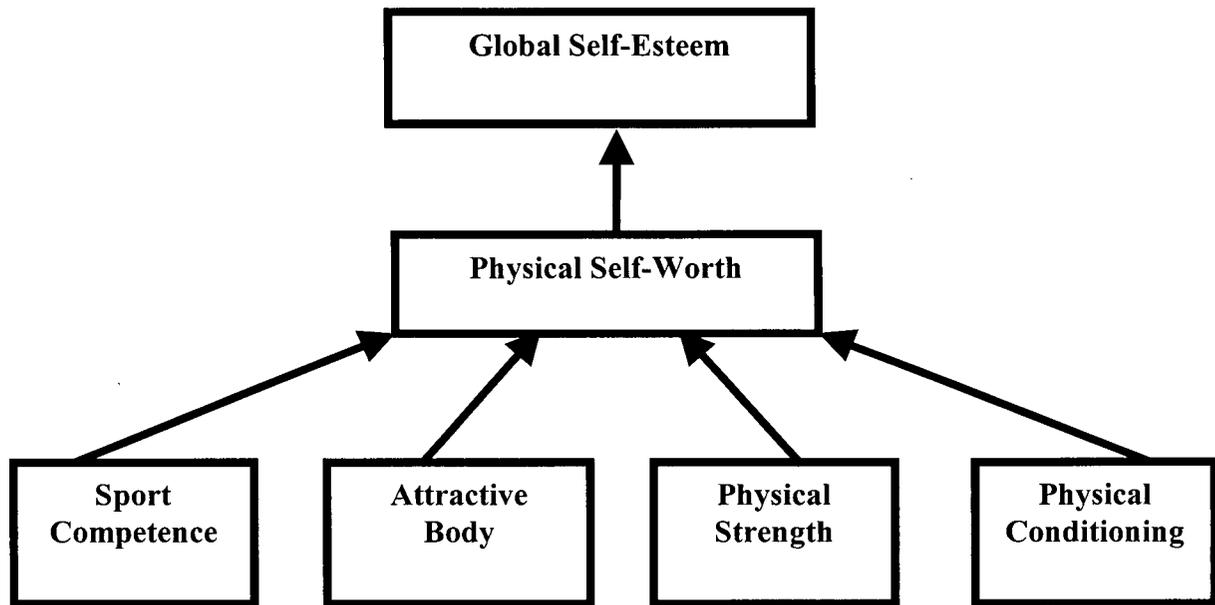


Figure 4 The Physical Self-Perception Model (Fox & Corbin, 1989)

Research using this hierarchical model of the physical self with undergraduate college students supported the model (Fox & Corbin, 1989). Further research using the same model showed the four-factor structure of the physical self to be suitable with children as young as ten (Crocker, Eklund, & Kowalski, 2000; Eklund, Whitehead, & Welk, 1997; Welk, Corbin, & Lewis, 1995; Whitehead, 1995).

The four subdomains of physical self as proposed by Fox and Corbin (1989) may not, however, be the optimal way to study physical self-perceptions in young adolescents. Early adolescents are still developing a complex self-structure (Harter, 1999), and may not be able to meaningfully differentiate between their physical strength, conditioning, and sport skills competencies. Empirical evidence in young adolescents showing that perceptions of conditioning, sport skills and strength are moderately to highly correlated supports this view (Crocker et al, 2000; Welk et al, 1995; Whitehead, 1995). These three components probably reflect a higher-order “athletic” or “physical” self. A simpler measurement model such as Harter’s (1985) Self-Perception Profile for Children that incorporates sport skills, physical conditioning and strength perceptions together as one factor, athletic competence, and body attractiveness perceptions as a second, separate factor may better describe physical self-perceptions in this age group.

#### **1.2.6.1 Physical Attractiveness Perceptions**

While perceptions of sport skills, strength, and conditioning may be best represented by one global concept such as athletic competence for young adolescents, perceptions of physical attractiveness seem to be a distinct aspect of the physical domain. Some

descriptive evidence suggests that girls tend to consider body attractiveness to be more important than boys throughout adolescence, and that females' ideals of attractiveness tend to emphasize grooming and slenderness while males' ideals tend to focus more on athleticism and fitness (Brettchneider & Heim, 1997). However, adolescents, regardless of sex, tend to have physical ideals emphasizing competence and fitness if they are involved in sport and ideals emphasizing body grooming and stylization if they are not involved in sport (Brettchneider & Heim, 1997). Since adolescent girls tend to participate in sport less than their male counterparts, the sex differences found in body ideals may be moderated by activity level. There is little evidence to suggest, however, that body attractiveness perceptions predict physical activity motivation or participation (Crocker et al, 2000).

Perceptions of body attractiveness are consistently found to be the strongest predictor of global self-worth among adolescent females (Crocker, Kowalski, Kowalski, Chad, Humbert, & Forrester, 2001; Fox, Page, Armstrong, & Kirby, 1994; Harter, 1999). It is thought that physical appearance may be closely tied to self-worth because it is always on display for observation and evaluation by the self and others, and due to contemporary western society's emphasis on physical appearance (Harter, 1999). Whatever the reason, physical attractiveness has been found to be the strongest predictor of global self-worth over numerous studies with subjects of different countries, age groups, and gender (Harter, 1999).

An interesting problem is evident here in identifying the role of self-worth in sport motivation. Self-worth is predicted primarily by physical attractiveness perceptions, while it seems that physical activity participation is not related to body perceptions. Harter's models of motivated behavior (1987, 1999) and subsequent versions adapted for the sport domain (Weiss, 2000; Weiss & Ebbeck, 1996) identify self-worth as a mediator between self-perceptions and motivated behavior. These models need to be directly tested to determine if self-worth is indeed a mediator between physical self-perceptions and activity motivation or if the theories need to be modified.

### **1.2.7 Social Relationships in Sport**

Sport is a social, as well as physical arena. Perceptions of physical competence partially explain motivation to engage in activity, but they do not provide a comprehensive explanation of sport motivation. Social success in the sport context also leads to perceptions of social competence and motivation to participate (Klint & Weiss, 1987; Weiss et al., 1990). Therefore, to understand young adolescents' sport motivation it is crucial to understand the effects that social relationships have on activity patterns.

#### **1.2.7.1 The Need To Belong**

There are a number of theoretical perspectives that propose there is a basic human need to belong. Baumeister and Leary's (1995) sociometer theory terms this as a need for social inclusion. The basic tenet is that people need to develop and maintain a certain quantity and quality of social bonds in order to experience high levels of social inclusion and as a result, heightened self-esteem (Leary, Haupt, Strausser, & Chokel, 1998).

Individuals are more likely to be attracted to activities where they feel they are a part of the group because it will satisfy this need and result in positive affective consequences. Deci and Ryan's (1991) self-determination theory describes the need for belonging as a need for relatedness. Those individuals who are able to seek and meet challenges that lead them to fulfill their psychological needs for autonomy, relatedness, and competence will feel more self-determined and therefore more intrinsically motivated to participate in the activities where those needs are met (Deci & Ryan, 1991). Harter's (1999) concept of relational self-worth, the tendency to experience different levels of self-worth in different relational contexts, incorporates the need to belong in its basic principle that individuals will be motivated to participate in activities where their self-perceptions are enhanced by their relationships with others in that context. During early adolescence, individuals develop the cognitive capacity to discern that particular situations and relationships contribute to different self-perceptions (Harter, 1999). From this stage onwards, it is expected that adolescents will seek out those situations where their need to belong is enhanced.

The common theme in these theories is that an individual will seek out those contexts where they experience feelings of social inclusion, social competence, or relatedness. In terms of cognitive development, this comparison and selection will begin to be possible during early adolescence. Therefore, it is expected that the impact of social relationships on participation motivation will be most prominent from this stage onwards.

**1.2.7.2 Adolescents' Social Relationships**

Little research has examined why and how social relationships influence motivation towards sport participation. Descriptive studies about why children and adolescents are motivated to participate routinely include factors related to affiliation and friendship (Coakley, 1993; Gould, Feltz, & Weiss, 1985; Gould & Petlichkoff, 1988; Passer, 1981; Weiss & Frazer, 1995; Weiss & Petlichkoff, 1989). Such studies are limited, however, as they neither further the conceptual understanding of the processes involved, nor account for individual differences and cognitive development.

The developmental literature exploring social relationships among children and adolescents distinguishes between two types of social relationships: friendship and peer acceptance. Friendship refers to a dyadic interaction, while peer acceptance is status or popularity in the group (Asher, Parkhurst, Hymel, & Williams, 1990). Peer groups can include numerous friendship pairs, but they are not just the sum of these pairings, they are distinct social units (Furman, 1989; Rubin, Bukowski, & Parker, 1997). While peer acceptance and friendship have been found to be highly coincidental, they are distinct factors and do not necessarily coincide in the same individual (Parker & Asher, 1993). Many low-accepted children do have at least one close friend, and having this friend is associated with positive psychosocial adjustment, such as lower levels of loneliness (Parker & Asher, 1993). Poorly accepted children can experience as much companionship as high-accepted children if they have at least one close friend (Parker & Asher, 1993). This research suggests that friendships may be a key social relationship affecting psychosocial and behavioral outcomes.

### **1.2.7.3 Friendship Quality**

Three elements of friendship have been identified as contributing to the affective experience of friendship: having friends or not, who the friends are, and the quality of friendship (Hartup, 1995; 1996). The simple condition of having friends or not is often used as the measure of friendship through which to examine psychosocial outcomes. In such research, assumptions are made that children who have friends are necessarily socially skilled, and that friendships always result in positive developmental and psychosocial outcomes (Hartup, 1996). In reality, friendships have both advantages and disadvantages, and who the friend is and the quality of friendship they provide has a critical influence on the outcomes of the friendship (Hartup, 1996)

In their research on friendship quality, Parker and Asher (1993) examined elements of friendship quality among children in the third through fifth grades. They identified six facets of friendship quality: validation and caring, conflict resolution, conflict and betrayal, help and guidance, companionship and recreation, and intimate exchange. From this work, they created the Friendship Quality Questionnaire (FQQ) to provide a way to assess friendship beyond whether or not a child has a friend.

### **1.2.7.4 Friendship In Context**

While Parker and Asher's (1993) Friendship Quality Questionnaire provided a measure of friendship quality, it does not take into account the social context in which those friendships occur. The context of a friendship refers to a number of conditions. In

addition to the situational setting (i.e. sport versus school), social strata, culture, developmental context, network of interpersonal relationships and gender have an impact on friendship (Burhmeister, 1996). Zabatany, Ghesquiere, and Mohr (1992) looked at children's friendships in a variety of contexts, and found context to be an important influence on friendship expectations. When participating in competitive activities such as sports and games, friends were expected to support self-evaluations by providing ego reinforcement, preferential treatment, and playing fairly. In academic activities and listening to music, friends were expected to provide direct help and have common interests. In relationship-focused activities like watching TV and talking on the phone, children had expectancies for common interests and inclusion (Zabatany et al., 1992). Their study suggests that youth may want different things from and provide different things to their friends depending upon the context.

An important contextual influence on friendship is the developmental context. Friendships evolve from preschool when friends function to serve a child's self-interest as a playmate, through middle childhood when friends are seen as companions and partners in activities but conflict and disagreement is not acceptable. In preadolescence, exchanging intimate information becomes an important component of friendship. In adolescence, friends are expected to provide emotional support and opportunities for experiencing autonomy (Berndt, Hawkins, & Hoyle, 1986). As they learn to accept and resolve conflicts in friendships during preadolescence onwards, conflicts and disagreements pose less of a threat to the relationship and friendships become more stable (Aboud & Mendelson, 1996).

There are also contextual differences between the friendships of males and females. Gender differences in friendships are influenced by different socialization experiences of boys and girls and a phenomenon known in the literature as sex cleavage. Up until adolescence, children tend to have very few opposite-sex friendships. In adolescence they begin to have some opposite-sex friends, but close friendships remain primarily same-sex (Belle, 1989). Sex cleavage in children's social relationships allows boys' and girls' peer cultures to evolve somewhat separately even though these two cultures often occur side by side in the same classroom, camp, or sport club.

Research on children's and adolescents' friendships suggest that girls' social relationships tend to be more dyadic, exclusive, intimate, and self-disclosing than those of boys (Belle, 1989; Daniels-Beirness, 1989). Girls' friendships tend to be more relationship oriented and focused on fulfilling communal needs such as intimacy, support, and nurturance. Boys' friendships are more focused on agentic needs including achievement, power, and status (Burhmeister, 1996). While these findings have been fairly consistent in the literature, they may be a phenomenon of different social opportunities. In a population of sport-involved adolescents, these gender differences in friendship structure and function may not be the same.

#### **1.2.7.5 Friendship Quality in Youth Sport**

In order to understand the role of friendship quality in youth sports, Weiss and her colleagues (Weiss & Smith, 1999; Weiss, Smith, & Theeboom, 1996) began a research

program on friendship quality in the youth sport context. They found Parker and Asher's (1993) Friendship Quality Questionnaire (FQQ) did not fit the data in a sport context. Using a similar conceptual model as the FQQ, Weiss and Smith (1999) developed a sport-specific scale (Sport Friendship Quality Scale; SFQS) with youth between the ages of eight and fourteen. They generated items for their new questionnaire from their previous qualitative study on youth sport friendship quality (Weiss et al, 1996), and some items from the FQQ. The 101 items were reviewed by an expert panel and reduced to 85 items. These items were administered to a sample of 8 to 12 year-old children, and were subjected to a factor analysis that resulted in a scale of 33 items in six dimensions. Further research reduced the scale to a six scale, 22-item instrument (Weiss & Smith, 1999). This process resulted in the identification of six factors that contribute to friendship quality among young adolescents in sport: self-esteem enhancement and supportiveness, loyalty and intimacy, things in common (including items pertaining to both shared experiences and shared values), companionship and pleasant play, conflict resolution, and conflict.

To this point, there is no published literature showing that the SFQS has been validated with different populations and samples, and little further research has explored the potential relationships between these friendship qualities and affective and motivational outcomes in the sport context. Nevertheless, the SFQS provides a means to measure a potentially meaningful social influence on enjoyment and motivation in the sport context.

### **1.2.8 Sport Enjoyment**

In accordance with the models of motivation (Harter, 1987; Weiss, 2000), both physical self-perceptions and sport friendship quality perceptions are likely antecedents of sport enjoyment. Descriptive studies have identified sources of sport enjoyment including social interactions with friends and teammates, and skill development factors (Scanlan, Carpenter, Lobel, & Simons, 1993; Wankel & Kreisel, 1985). Scanlan and Lewthwaite (1986) developed a two-dimensional framework of sources of sport enjoyment that has four quadrants representing sources related to self-reinforced perceptions of competence and control, feelings of competence dependent of feedback from others, sensations related to the experience of the activity itself, and non-performance aspects such as social interactions. Studies such as this have been purely descriptive, however, and a clear understanding of the sources of sport enjoyment and how they operate to predict participation motivation remains elusive.

While inquiry into the antecedents of sport enjoyment has been primarily descriptive, research on the outcomes of sport enjoyment has provided support for a positive relationship between sport enjoyment and participation motivation. Descriptive studies have suggested that children who enjoy sport are more motivated to continue participation (Gill, Gross, & Huddleston, 1983; Weiss & Petlichkoff, 1989). Scanlan and colleagues (Scanlan, Simons, Carpenter, Schmidt & Keeler, 1993) explored this relationship further in the development of the Sport Commitment Model. The model proposes that sport commitment is predicted by sport enjoyment, personal investments,

social constraints, involvement opportunities, and involvement alternatives (see Figure 5).

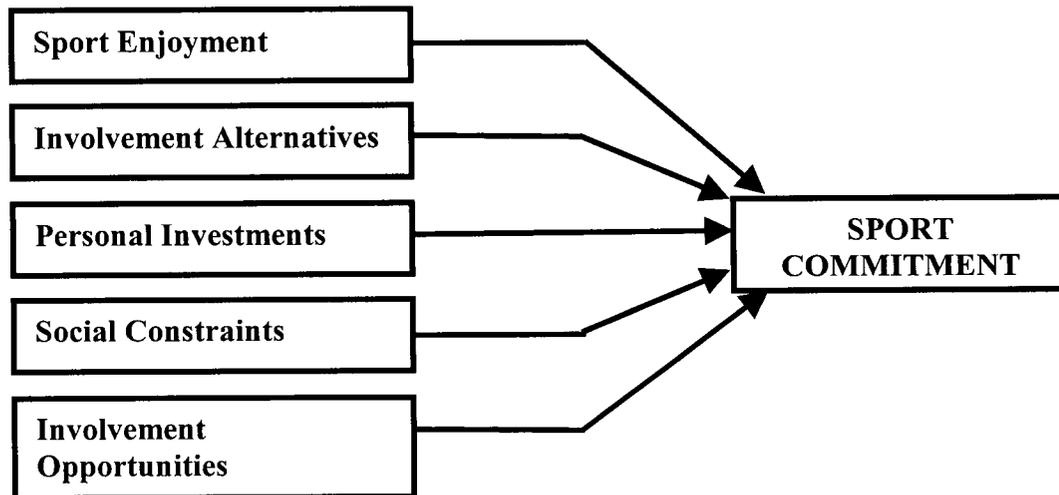


Figure 5 The Sport Commitment Model (Scanlan, Simons et al., 1993)

Studies with this model have demonstrated that sport enjoyment has the strongest predictive relationship with sport commitment (Scanlan, Simons et al., 1993; Weiss, Kimmel, & Smith, 2001). The strength of the relationship between enjoyment and commitment lead Weiss et al (2001) to propose that sport enjoyment mediates the relationship between other predictors (such as physical competence, social support, and the other predictors in the Sport Commitment Model) and sport commitment. The study examined three models. In the first model, sport enjoyment, personal investments, social constraints, attractive alternatives, and social support predicted sport commitment directly. In the second model, enjoyment mediated the relationship between all the other predictors and sport commitment. In the third model, sport enjoyment was a mediator, but the predictors also had direct paths to sport commitment. All three models fit the data adequately. Despite the equivocal results of this study, it is intriguing as it attempted to show a link between Harter's (1987) model using perceived competence and social support as antecedents of affect and motivation, and the Sport Commitment Model.

### **1.2.9 An Alternative Model of Participation Motivation**

Equivocal findings and competing theories in the participation motivation literature have highlighted a need to examine the relationships between friendship qualities, physical self-perceptions, self-worth, enjoyment, and motivation to participate in sport.

Specifically, the role of self-worth as a mediator in models of participation motivation such as that by Weiss (2000) (see Figure 3) is seen as questionable, and needs to be tested against a competing model where self-worth is not central to the motivation process. The existing research seems to support the proposal that a viable alternative model may be one where friendship quality and physical competence perceptions influence self-esteem

and enjoyment directly, and enjoyment in turn predicts commitment to the sport and future expectations to participate (see Figure 6). Physical self-perceptions related to body attractiveness are likely salient predictors of self-esteem, but not of physical activity motivation or behavior (Crocker et al., 2000).

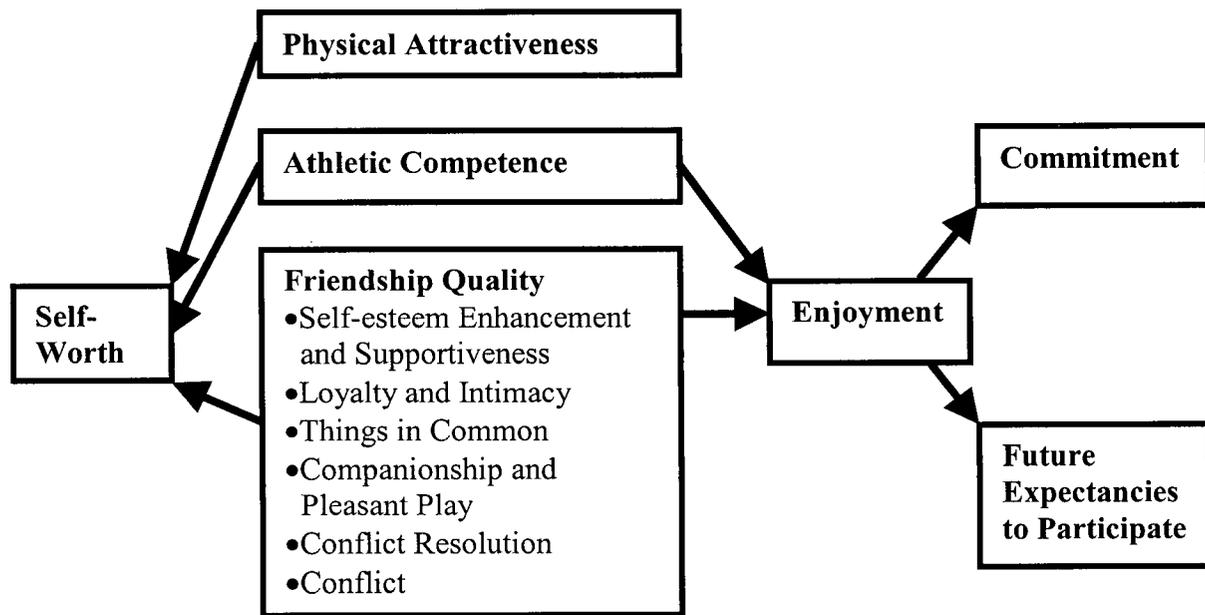


Figure 6 Proposed Model of Sport Participation Motivation

### **1.3 SUMMARY**

A variety of sources points to the possibility that both sport friendship quality and athletic competence perceptions influence motivation to participate in sport. The process by which these constructs might impact participation motivation remains unclear. Questions surrounding the role of self-worth in the relationship between self- and social perceptions and motivation for sport require a test of two competing models. A model where self-worth mediates the relationship between self- and social perceptions and motivation needs to be tested against another where self-worth and sport enjoyment and motivation are separate outcomes of self- and social perceptions.

### **1.4 STATEMENT OF THE PURPOSE AND HYPOTHESES**

#### **1.4.1 Purpose**

Specifically, the present investigation will examine two models relating six dimensions of friendship quality, physical competence and body attractiveness perceptions, global self-worth, sport enjoyment, and motivation to participate in sport among female sport participants between the ages of eleven and fourteen. The two models are based on the self-esteem as a mediator model (Weiss & Ebbeck, 1996, Weiss, 2000) (see Figure 3), and the direct effects of friendship quality and physical self-perceptions on sport enjoyment model proposed in this study (see Figure 6). Given the decline in physical activity levels among young adolescents and the lower levels of participation among females in particular, this study will examine these relationships in a young adolescent female population.

The target population was eleven to fourteen year-old girls because they represent a group that has a higher risk of dropping out from youth sport, and this is a developmental period where friendships are very salient. Since dropout is a common occurrence in this age range (Petlichkoff, 1992; Weiss & Petlichkoff, 1989) it was expected that this population would contain girls with a wide range of motivation to continue their sport participation. In addition, this population is at a developmental stage where the focus of friendship has recently shifted from primarily one of companionship to that of intimacy and social support (Berndt et al, 1986). It was therefore expected that this population of girls would have a variety of sport friendship experiences, which may in turn contribute to varying motivational outcomes.

#### **1.4.2 Hypotheses**

##### **1.4.2.1 Primary Hypothesis**

The proposed model of sport participation motivation pictured in Figure 6 will provide a better fit to the data than a model where self-worth mediates the relationship between the predictors and sport enjoyment.

##### **1.4.2.2 Secondary Hypotheses**

Secondary hypotheses included:

- a. Perceptions of friendship quality, athletic competence, and physical attractiveness will be related to global self-worth.
- b. Physical attractiveness perceptions will be the strongest predictor of self-worth.

- c. Perceptions of each of the six dimensions of friendship quality and perceptions of athletic competence will contribute to sport enjoyment.
- d. Sport enjoyment will predict sport commitment and future expectancies to participate in sport.
- e. The relationship between self-worth and sport enjoyment will be accounted for by the effect of friendship quality perceptions and athletic competence perceptions on sport enjoyment.

## **CHAPTER 2**

### **2.1 METHODS**

#### **2.1.1 Participants**

##### **2.1.1.1 Determining Sample Size**

Sample size was calculated assuming a moderate effect size of 0.50 (Stevens, 1996).

Achieving power to detecting a smaller effect size was not considered necessary as it was felt that it would be of little practical significance if relationships were weak. To have adequate power (80%) with  $\alpha$  set at 0.05 given a moderate effect size using a multiple regression statistical analysis, it is necessary to have approximately fifteen to twenty participants per predictor variable in the model (Stevens, 1996). Using twenty participants for each of the eight predictor variables, a minimum of 160 participants was required. Power calculations were based on attaining power for the multiple regression analysis because these calculations yielded the largest estimation of sample size, suggesting that power will be amply attained for all other statistical analyses with 160 participants. To improve the stability in the data and relationships examined, this study aimed for a sample size of over 200 participants.

##### **2.1.1.2 Description Of Participants**

Five hundred and eighty-eight girls from 49 teams were approached to participate in this study and given letters and parental consent forms. Two hundred and forty-one participated by completing the questionnaire, representing a 41% response rate. The study included participants from ringette, soccer, basketball, softball, volleyball, and field hockey teams in Vancouver, Richmond, Burnaby, and West Vancouver. Of the 241 who

completed the questionnaire, twelve were excluded from the data analysis. Eight girls were either too old ( $n = 3$ ) or too young ( $n = 5$ ). One participant did not indicate her age on the questionnaire. Two participants failed to complete the questionnaire and one participant was excluded because her parent was interfering with her responses to various items on the questionnaire. Two other participants missed one question each, and their responses were excluded from analyses involving those items. Therefore, 229 subjects were included in the analysis. Of those 229 participants included, 35 (15.3%) were 11, 80 (34.9%) were 12, 69 (30.1%) were 13, and 45 (19.7%) were 14 years old.

#### **2.1.1.2.1 Ethnic Identity**

Participants were asked to complete a cultural identity measure for sample description purposes. Subjects were asked to respond to a single item, "What is your ethnic origin?" They were asked to answer by identifying all of the cultural groups from a given list that apply to them. The list was composed of the 21 most common cultural groups in the Vancouver area based on recent census data (Community Services, City of Vancouver, 1999). Options were also provided to write in cultural groups not mentioned in the given list, or to indicate that one does not identify with an ethnic or cultural group. This item is based on measures in the developmental literature and recommendations regarding the assessment of ethnic or cultural information (Entwisle & Astone, 1994; Phinney, 1990)

Data from the ethnic identity item was classified into eight groups. The European-Caucasian group included those who indicated that their ethnic origin was one or any combination of the following: Italian, Irish, German, British, Portuguese, Polish, French,

Scottish, Jewish, Dutch, Greek, Ukrainian, Danish, Swiss, Croatian, Belgian, Czech, Flemish, Norwegian, Icelandic, Russian, Serbian, Welsh, Hungarian, Austrian, Yugoslavian, Swedish, Romanian, and Spanish. Southeast Asian included those who indicated they were Chinese, Japanese, Korean, and Malaysian. South American included those who were Hispanic, Mexican, and Brazilian. The Aboriginal group included those who indicated they were Native/Aboriginal, but this group was only indicated by those included in the mixed group. The South Asian group included those who indicated they were East Indian, but again this group was only indicated by those who were included in the mixed group. The "other" group included those who indicated they were Iranian, Jamaican, Zimbabwean, Australian, New Zealand, Dominican, Ethiopian, and Hawaiian. The mixed group included individuals who indicated that their ethnic origins included two or more groups. The "none" group included those who indicated that they did not belong to an ethnic or cultural group or only indicated that they were Canadian. Since Canada is multi-ethnic country, and most if not all of the participants were likely Canadian, it was not felt that Canadian was a meaningful ethnic or cultural group for the purposes of describing this sample. Two subjects indicated religious groups (i.e. Roman Catholic and Mennonite) rather than ethnic groups. These two subjects were included in the "none" group. One hundred and sixty-six (72.5%) of participants indicated that they were European-Caucasian, 27 (11.8%) were mixed, 21 (9.2%) were in the "none" group, 9 (3.9%) were Southeast Asian, 4 (1.7%) were in the "other" group, 1 (0.4%) was South American, and 1 (0.4%) was South Asian.

## 2.1.2 Measures

### 2.1.2.1 Athletic Competence

Perceptions of athletic competence were assessed using the athletic competence scale of Harter's (1985) Self-Perception Profile for Children. In this scale, the participant is presented with two opposing statements, and is asked to choose which one of the two best describes her. She must then choose whether that statement is sort of true for her, or really true for her and place a mark in the appropriate box. For example:

Really True for me	Sort of True for me				Sort of True for me	Really True for me
<input type="checkbox"/>	<input type="checkbox"/>	Some kids do very <i>well</i> at all kinds of sports	<b>BUT</b>	Other kids <i>don't</i> feel that they are very good when it comes to sports	<input type="checkbox"/>	<input type="checkbox"/>

(Harter, 1985)

The scale consists of 5 items presented in this structured alternative format. Responses are scored on a four-point scale, with 1 representing low perceived competence, and 4 representing high perceived competence. Validity of this scale was established repeatedly with children in grades three to nine (Harter, 1985), and the reliability of this subscale was found to range between .80 to .86 across four different samples using the coefficient alpha (Harter, 1985).

### 2.1.2.2 Physical Attractiveness

The perceived physical attractiveness subscale of Harter's (1985) Self-Perception Profile for Children was used to assess physical attractiveness perceptions. This scale consists of

five items presented in the same structure alternative format as the athletic competence scale. The reliability of this subscale ranged from .76 to .82 across four separate samples.

### **2.1.2.3 Self-Worth**

Self-worth was assessed using the global self-worth scale of Harter's (1985) Self-Perception Profile for Children. This scale consists of 5 items in the same structure alternative format as the previous two scales. Validity of this scale was established repeatedly using four different samples of children in grades three to nine (Harter, 1985). The reliability for this scale from these studies ranged from .78 to .84.

### **2.1.2.4 Sport Friendship Quality**

Weiss and Smith's (1999) Sport Friendship Quality Scale (SFQS) was used to assess the six dimensions of sport friendship quality: self-esteem enhancement and supportiveness, loyalty and intimacy, things in common, companionship and pleasant play, conflict resolution, and conflict. Participants were instructed to think of one person whom they consider to be their best friend in the sport they were currently playing. For example, if they answered the questionnaire with their soccer team, they were asked to think of their best friend in soccer. They were asked to place that individual's first name or initials at the top of the page containing the friendship quality items, and answer each question thinking of themselves and that one friend. The scale consists of 22 items that are rated on a five point Likert scale with the labels not at all true/hardly ever true/sometimes true/mostly true/really true. For example:

My friend and I have common interests

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

(Weiss & Smith, 1999)

Responses are scored from 1 (not at all true) to 5 (really true). The scale was created and validated in a sport context using children aged 8 to 14 years old. Test-retest reliability conducted one week apart yielded correlations of .89, .80, .92, .86, .88, and .87 for each of the subscales respectively (Weiss & Smith, 1999). Confirmatory factor analysis of a larger instrument resulted in an inadequate fit. Based on modification indices, they revised their instrument to the final six-factor, 22-item scale used in this study. The revised instrument had acceptable indices of fit (NNFI = .93, CFI = .94, RMSEA = .056) (Weiss & Smith, 1999).

### 2.1.2.5 Sport Enjoyment

Scanlan, Simons et al.'s, (1993) sport enjoyment subscale from the Sport Commitment Model was used to assess enjoyment levels in their current sport. This scale consists of four items asking about the athlete's fun and enjoyment playing their sport. It is rated on a five-point Likert scale with the labels not at all/a little/sort of/pretty much/very much.

For example:

Do you have *fun* playing this sport this season?

Not at all       A little       Sort of       Pretty much       Very Much

(Scanlan, Simons et al., 1993).

Responses are scored from 1 (not at all) to 5 (very much). This scale was created and validated in a sport setting using subjects aged ten to twenty years old. Reliability of this scale was tested twice, and values for Cronbach's alpha for the scale were .90 and .95 (Scanlan, Simons et al., 1993).

### **2.1.2.6 Sport Commitment**

Scanlan, Simons et al.'s (1993) sport commitment subscale of the Sport Commitment Model was used to assess commitment to their current sport. This scale consists of four items asking about the athlete's desire and resolve to continue participation in their current sport. It is rated on a five-point Likert scale with the labels not at all dedicated (hard, determined)/a little dedicated (hard, determined)/sort of dedicated (hard, determined)/dedicated (hard, determined)/very dedicated (hard, determined) for the first three items and nothing at all/a few things/some things/many things/a lot of things for the fourth item. For example:

How dedicated are you to playing this sport this season?

Not at all dedicated     A little dedicated     Sort of dedicated     Dedicated     Very dedicated

(Scanlan, Simons et al., 1993)

Responses are scored from 1 to 5. Two tests of reliability run on separate samples yielded Cronbach's alpha values of .88 and .89 (Scanlan, Simons et al., 1993).

### **2.1.2.7 Intention To Return**

One item asking participants “How likely are you to return to playing *this* sport next season?” was used to assess intention to return to the sport in which the subject was currently participating. A second item, “How likely are you to continue participating in sports next season?” was used to assess intention to return to sport. Based on work by Spink (1995), both of these items were assessed using a five-point Likert scale with the labels not at all likely/not likely/so-so/likely/very likely. Responses were scored from 1 (not at all likely) to 5 (very likely). The use of a single item to measure intention to return to sport is recognized as potentially problematic from a validity and reliability standpoint, but it is the best measure available at this time for measuring this construct. A single item similar to the one used in this study was employed in previous studies (i.e. Spink, 1995). The validity of using a single item to measure intention to return has been extensively argued (Courneya & McAuley, 1993) and is considered an acceptable measurement tool for these purposes.

### **2.1.3 Procedures**

#### **2.1.3.1 Pilot Study**

The measures were pilot tested with a sample of 7 soccer players aged 12-13.

Participants were asked to complete the questionnaire, and were then asked if there were any words or questions they did not understand, and their responses were examined for evidence of comprehension of scale format. The only question that arose was with respect to the meaning of the word “values” in the item “Do you and your friend have the

same values?" from the "Things in common" subscale of the Sport Friendship Quality Scale. The participant was informed that it meant, "Do you and your friend think that the same kinds of things are important?" No other problems were reported, and so it was decided that proceeding with the main study was appropriate.

### **2.1.3.2 Main Study**

A convenience sample of subjects was recruited by approaching Sport B.C. to obtain contacts with appropriate sport organizations and teams within the Vancouver area. Coaches of appropriate teams were contacted via telephone, at which time the nature and purpose of the study was explained and their permission was obtained to approach their teams to recruit participants. Each team was visited twice. On the first visit, the researcher or a trained assistant met briefly with the team at the beginning or end of a practice session to briefly explain the nature and purpose of the study, and to distribute letters explaining the study and parent/guardian consent forms. The team was visited a second time before or after a subsequent training session or game. All of the girls who had returned signed parent/guardian consent forms and agreed to participate completed the questionnaire at this time. Questionnaires were distributed to all participants. Participants were asked not to put their name on their questionnaire booklet to ensure anonymity. The researcher or trained assistant then gave instructions on how to answer the structured alternative format questions (physical competence, physical attractiveness, and self-worth scales, see measures section below). Once most of the participants had finished this section of the questionnaire, instructions were given to the group on how to complete the friendship quality questions and the remainder of the questionnaire. The

questionnaire took approximately fifteen minutes to complete. The researcher or a trained assistant was present throughout this period to answer any questions by the athletes. Once completed, the questionnaires were collected, checked for missed questions, and the athletes were thanked for their participation.

#### **2.1.4 Data Analysis**

In the interest of simplicity on all charts and tables, the following codes will be used for the measured variables in this study:

Athletic Competence Perceptions	AC
Physical Attractiveness Perceptions	PA
Self-Worth	SW
Self-Esteem Enhancement and Supportiveness	SUPPORT
Loyalty and Intimacy	LOYAL
Things in Common	COMMON
Companionship and Pleasant Play	PLAY
Conflict Resolution	RESOLVE
Conflict	CONFLICT
Sport Enjoyment	ENJOY
Sport Commitment	COMMIT
Intention to Return to this Sport	THIS
Intention to Return to Sport	SPORT

Prior to testing the hypotheses, the data was screened for missing data and outliers.

Participants with missing data were excluded from analyses involving those items.

Normality was examined by examining the data distribution and skewness and kurtosis statistics. Descriptive statistics, means and standard deviations, were computed for all variables. Scale reliabilities were examined using Cronbach's alpha.

Various analyses were run to test the secondary hypotheses. Pearson Product Moment correlations were run to examine the simple relationships among all of the variables.

Spearman correlations were run for correlations involving the ENJOY, THIS, and SPORT variables, as they were identified as being skewed, and in the case of SPORT, kurtosed. Next, a series of multiple regression analyses were run to examine each of the secondary hypotheses. In all cases, all variables were entered simultaneously into the regression equation. The first of these analyses examined if the six friendship qualities, physical attractiveness and physical competence predicted self-worth. The second multiple regression analysis examined if the six friendship qualities and physical competence predicted sport enjoyment. Third, a series of simple regression analyses were run to examine if sport enjoyment predicted each of sport commitment, intention to return to this sport, and intention to return to sport in general.

To test the secondary hypothesis that the six friendship qualities mediated the relationship between self-worth and sport enjoyment, a regression analysis was run to determine if self-esteem predicted sport enjoyment. Since this test resulted in finding no relationship between self-esteem and sport enjoyment, further tests of mediators of this relationship were abandoned, as there was no relationship to mediate.

To test the primary hypothesis, that the proposed model of participation motivation would fit the data better than a model with self-worth mediating the relationship between physical self-perceptions and sport friendship qualities, and sport enjoyment and motivation, two path analyses were run to compare the two models. Path analysis uses regression techniques to compare the efficacy of competing causal models. While it cannot deduce causes, it can provide support for particular pre-specified causal models as

compared to other competing models (Pedhazur, 1997). Using a program such as *EQS*, the researcher identifies the hypothesized relationships between the variables. By solving a series of equations, path coefficients, or the direct effects of a variable hypothesized as a cause on the variable hypothesized as an effect, can be determined (Pedhazur, 1997). The models can be compared based on how well they fit the data using statistical tests to identify whether the path coefficients are significant, by examining fit indices, and examining the results in terms of their meaningfulness (Pedhazur, 1997). Path analysis has the underlying assumptions that relationships among the variables are linear, additive, and causal; residuals are not correlated with the variables that precede it in the model; there is a one-way causal flow in the model; variables are measured on an interval scale; and that variables are measured without error (Pedhazur, 1997).

Since neither model fit the data well, a series of path analyses were run with modified versions of a sub-model including sport enjoyment, commitment, and intention to return to this sport, and with the larger model to see if a more parsimonious model could be found.

The level of significance for all tests was set at  $p < .05$  prior to analysis. The data were analyzed using SPSS and EQS.

## CHAPTER 3

### 3.1 RESULTS

#### 3.1.1 Descriptive Statistics And Correlations

The means and standard deviations of all of the scales used are presented in Table 3.1.

Table 1

Means and Standard Deviations for the Self-Perception, Sport Friendship Quality, Sport Enjoyment, and Motivation Variables

	Mean	Standard Deviation	Range	Scale Range
AC	3.15	.54	1.67-4.00	1.00-4.00
PA	2.91	.67	1.00-4.00	1.00-4.00
SW	3.39	.50	2.00-4.00	1.00-4.00
SUPPORT	4.19	.69	1.50-5.00	1.00-5.00
LOYAL	4.09	.81	1.25-5.00	1.00-5.00
COMMON	3.96	.73	1.50-5.00	1.00-5.00
PLAY	4.38	.75	1.50-5.00	1.00-5.00
RESOLVE	3.93	.83	1.33-5.00	1.00-5.00
CONFLICT	1.98	1.00	1.00-5.00	1.00-5.00
ENJOY	4.73	.53	2.50-5.00	1.00-5.00
COMMIT	4.29	.71	1.25-5.00	1.00-5.00
THIS	4.79	.55	1-5	1-5
SPORT	4.93	.32	2-5	1-5

The means and standard deviations of the athletic competence, physical attractiveness, and global self-worth scales were higher than those reported in previous studies with grade 6-8 females (Harter, 1985). In those studies, means for athletic competence ranged from 2.40 to 2.80 ( $SD = .69$  to  $.81$ ), physical attractiveness from 2.40 to 2.68 ( $SD = .65$ - $.79$ ), and self-worth from 2.91 to 3.10 ( $SD = .55$ - $.68$ ) (Harter, 1985). This difference may be attributable to the fact that Harter's (1985) data came from a school-based sample, while the participants in this study were all active participants on sport teams. If physical competence is indeed related to sport participation, it seems likely that the mean perceived athletic competence would be higher in a sample of sport participants.

Means and standard deviations for the subscales of the Sport Friendship Quality Scale were not reported by Weiss and Smith (1999) and were therefore unavailable for comparison. Data from a recent, unpublished study by Weiss and her colleagues on a sample of 10-18 year-old male and female tennis players were made available by the authors for comparison. Overall, their means were slightly lower by  $\frac{1}{4}$  to  $\frac{1}{2}$  a standard deviation, except for conflict whose mean was equivalent to that from the present study (M.R. Weiss, personal communication, May 20, 2002). While the means of both studies seem quite high, they are plausible as they reflect ratings of friendship quality with the participant's best friend in sport.

The sport enjoyment and commitment means were very high, and enjoyment was negatively skewed ( $skew = -2.35$ ). The means were similar to those found in sample 3 from Scanlan et al. (1993) that used the final version of the sport enjoyment and

commitment scales. They reported means of single items from the enjoyment scale as ranging from 4.42-4.50 and standard deviation ranging from .81-.89. These mean values are slightly lower than those found in this study ( $M = 4.73, SD = .53$ ). For the commitment scale, means on single items ranged from 3.94 to 4.27, and standard deviation ranged from .82 to 1.11, very close to the values found in this study (see Table 1).

The correlations were examined using Pearson correlations in most cases. Three scales, intention to return to this sport, intention to return to sport in general, and enjoyment had skewness statistics beyond -2.00, and were therefore considered negatively skewed (Miles & Shevlin, 2001). As a result, correlations involving these three variables were examined using the Spearman correlation. Correlations are presented in Table 2.

**Table 2:**  
**Correlations Among Self-Perception, Sport Friendship Quality, Sport Enjoyment, and Motivation Variables (\*p< .05)**

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. AC	—												
2. PA	.43*	—											
3. SW	.41*	.72*	—										
4. SUPPORT	.27*	.24*	.24*	—									
5. LOYAL	.13	.08	.10	.58*	—								
6. COMMON	.20*	.16*	.08	.50*	.72*	—							
7. PLAY	.15*	.13	.14*	.42*	.71*	.65*	—						
8. RESOLVE	.18*	.24*	.26*	.60*	.48*	.44*	.35*	—					
9. CONFLICT	-.04	-.18*	-.19*	-.19*	.11	.01	.12	-.38*	—				
10. ENJOY	.15*	.07	.15*	.18*	.13*	.19*	.02	.22*	-.13	—			
11. COMMIT	.24*	.16*	.16*	.24*	.19*	.25*	.17*	.21*	-.08	.54*	—		
12. THIS	.16*	.05	.10	.22*	.13*	.16*	.10	.12	.03	.45*	.50*	—	
13. SPORT	.21*	.03	.08	.21*	.08	.10	.06	.20*	-.04	.28*	.52*	.52*	—

**Note.**

Numbers in normal font are Pearson Correlations

Numbers in **bold** are Spearman Correlations

Self-perceptions of athletic competence and physical attractiveness were moderately correlated (.43), comparable to that found in studies by Harter (1985). Athletic competence was moderately correlated with global self-worth (.41), again comparable to Harter (1985). As expected, physical attractiveness perceptions had the strongest relationship with global self-worth (.72), slightly higher than values found by Harter (1985).

### **3.1.2 Scale Reliabilities**

Reliability of the scales employed in this study was examined using Cronbach's alpha. Reliabilities for all scales were acceptable, and similar to data from previous research. The results of this analysis and the range of inter-item correlations for each scale are presented in Table 3.

Table 3: Scale Reliabilities and Inter-Item Correlation Ranges

Scale	Alpha Coefficient	Inter-item Correlations
AC	.78	.24-.55
PA	.83	.27-.71
SW	.77	.19-.51
SUPPORT	.72	.16-.49
LOYAL	.77	.20-.65
COMMON	.78	.45-.53
PLAY	.81	.37-.69
RESOLVE	.70	.37-.57
CONFLICT	.89	.67-.78
ENJOY	.93	.74-.79
COMMIT	.85	.47-.74

Harter's (1985) work with a mixed gender group of a similar age reported slightly higher alpha levels for the athletic competence (.84-.86) and global self-worth scales (.80-.84), but the results from this study are still above the .70 cut-off for acceptable reliability (Nunnally, 1978). Harter (1985) reported reliability for the physical attractiveness subscale (.81-.82) was quite similar to that found in the present study.

The reliability of all of the friendships quality scales other than conflict were lower than those reported by Weiss and Smith (1999). The data from their study, however, was based on test-retest methods, rather than Cronbach's alpha. The reliability for all of the

friendship quality scales in this study were at or above the .70 cut-off point considered acceptable.

Scanlan and her colleagues (Carpenter & Scanlan, 1998; Scanlan, Simons et al., 1993) reported very similar alpha scores for sport enjoyment and commitment in their studies of male and female sport participants between the ages of 10 and 19 years old. Sport enjoyment ranged from .90-.95 (Scanlan, Simons et al., 1993; Carpenter & Scanlan, 1998), as compared to .93 in this study. Sport commitment ranged from .87-.89 (Carpenter & Scanlan, 1998; Scanlan, Simons et al., 1993) as compared to .85 in this study.

### **3.1.3 Test Of Hypotheses**

#### **3.1.3.1 Secondary Hypotheses**

##### **3.1.3.1.1 Predictors of Self-Worth**

The first hypothesis tested was the secondary hypotheses that perceptions of athletic competence, physical attractiveness and each of the six friendship qualities will contribute to global self-worth, and that physical attractiveness will be the strongest predictor of global self-worth (see Figure 7).

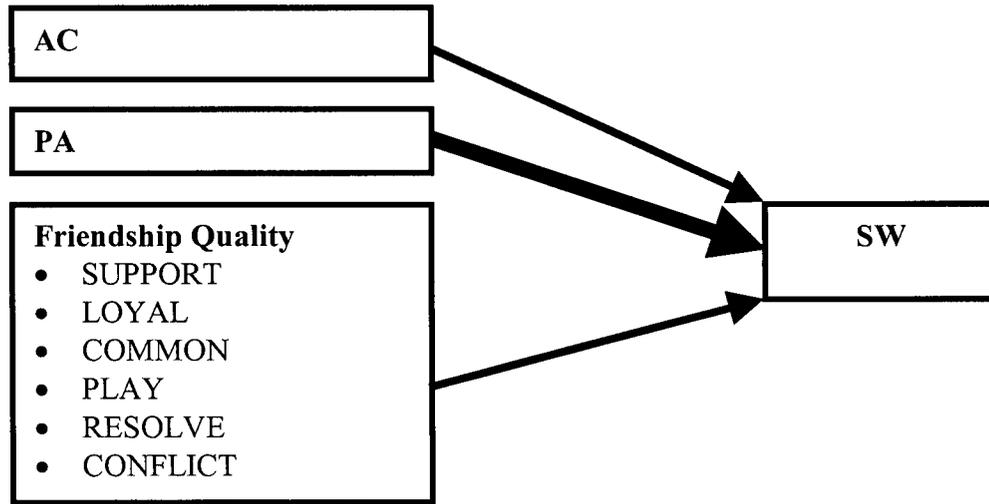


Figure 7 Hypothesized Prediction of Self-Worth by Athletic Competence, Physical Attractiveness, and Friendship Quality

Pearson Product Moment correlations indicated that physical attractiveness perceptions were most strongly related to self-worth, and that athletic competence perceptions, self-esteem enhancement and supportiveness, companionship and pleasant play, conflict resolution, and conflict were also significantly correlated with self-worth. Loyalty and intimacy and things in common were not related to self-worth (see Table 2).

A multiple regression analysis, entering all variables simultaneously, examined the contribution of each of these variables to the prediction of self-worth. The results from this analysis are presented in Table 4.

Table 4

Multiple Regression Analysis of PA, PC, and the Six Friendship Qualities for Prediction of SW

Predictor Variable	$\beta$	$R^2$
PA	.649*	.541*
PC	.132*	
SUPPORT	.017	
LOYAL	.062	
COMMON	-.212*	
PLAY	.101	
RESOLVE	.073	
CONFLICT	-.051	

\*  $p < .05$

Physical attractiveness and athletic competence perceptions predicted self-worth,  $F(8, 218) = 34.284$ ,  $R^2 = .541$ ,  $p < .05$ . Physical attractiveness perceptions were the strongest predictor of self-worth ( $\beta = .649$ ). Perceptions of athletic competence seem to contribute a very small amount to the prediction of global self-worth. This may be due to colinearity. Athletic competence and physical attractiveness perceptions were moderately correlated ( $r = .43$ ). Athletic competence may not add much prediction to global self-worth once the contribution of physical attractiveness has already been taken into account. The negative contribution of things in common seems puzzling, as it does not make intuitive sense that feeling that one has “things in common” with a best friend would contribute to lower levels of self-worth. Further, simple correlations found no relationship. Again, this phenomenon may be due to colinearity among the variables. If predictor variables are highly correlated, multiple regression analysis has trouble partitioning variance among those variables, as it is unclear which variable is the “true” contributor. Mathematical solutions for regression analysis with moderately to highly correlated predictor variables can lead to coefficients that change signs, and questionable results that are difficult to interpret (Maruyama, 1998). Things in common and global self-worth are not significantly correlated. In the regression analysis, things in common has a negative contribution to global self-worth. Given that several friendship qualities are moderately to highly correlated and it seems unlikely that having little in common with one’s best sport friend would lead to higher levels of self-esteem, it is likely that this negative coefficient is a result of colinearity problems among the predictor variables.

Both the correlational data and the multiple regression analysis supported the hypothesis that physical attractiveness perceptions would be the strongest predictor of global self-worth. The hypothesis that physical attractiveness, athletic competence, and the six friendship quality dimensions would predict self-worth was only partially supported. Correlational data suggested that physical competence and some of the friendship dimensions, particularly self-esteem enhancement and supportiveness and conflict resolution, were related to self-worth. The multiple regression analysis, however, suggested that these constructs played only a small role, however, changes in direction of the relationship between correlation and regression analysis results, as well as the high degree of correlation among the self-perception variables and the friendship quality variables suggest that these relationships may have been obscured by colinearity problems with the data.

#### **3.1.3.1.2 Predictors of Sport Enjoyment**

The secondary hypothesis that perceptions of each of the six dimensions of friendship quality and perceptions of athletic competence will contribute to sport enjoyment was then tested (see Figure 8).

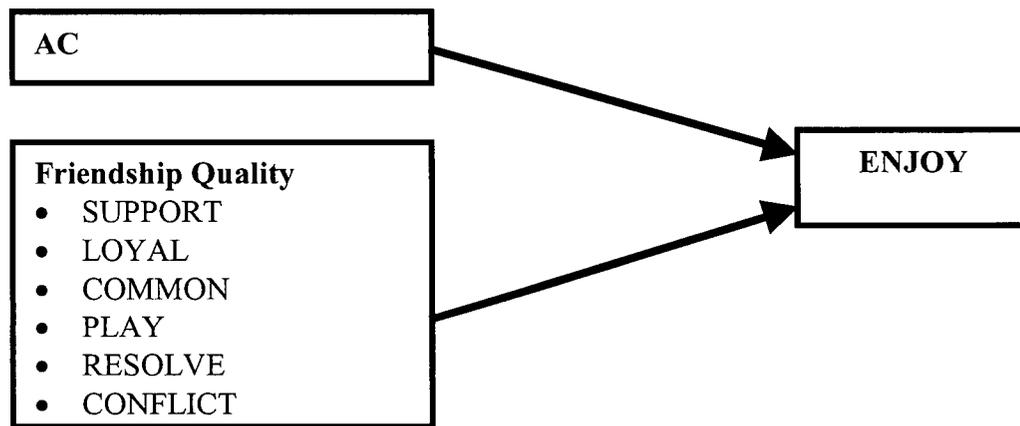


Figure 8 Hypothesized Prediction of Sport Enjoyment by Athletic Competence and Friendship Quality

Spearman correlations indicated that athletic competence, self-esteem enhancement and supportiveness, loyalty and intimacy, things in common, and conflict resolution all had weak relationships with sport enjoyment (see Table 2). Companionship and pleasant play and conflict were not related to sport enjoyment.

A second multiple regression analysis, was performed to determine the contribution of each of these variables to the prediction of sport enjoyment. The results from this analysis are presented in Table 5.

Table 5

Multiple Regression Analysis of PC and the Six Friendship Qualities for Prediction of ENJOY

Predictor Variable	$\beta$	$R^2$
PC	-.007	.092*
SUPPORT	.049	
LOYAL	-.130	
COMMON	.375*	
PLAY	-.139	
RESOLVE	.165	
CONFLICT	.032	

\*  $p < .05$

Enjoyment was predicted only by "things in common",  $F(7, 220) = 4.296$ ,  $R^2 = .092$ ,  $p < .05$ . While significant, the equation resulting from this analysis explained only 9% of the

variance in enjoyment, and things in common was the only contributing variable. So while feeling that one's best friend in sport had common interests and values contributed to higher levels of sport enjoyment, the relationship was not very strong.

The hypothesis that athletic competence and the six friendship qualities would predict sport enjoyment was only marginally supported by the data. Correlations were weak, and while things in common emerged as a significant predictor of sport enjoyment, it only accounted for 9 percent of the variance. The results of this analysis should be regarded with caution, however, as the assumptions of multiple regression were violated due to the skewed nature of the enjoyment variable.

#### **3.1.3.1.3 Outcomes of Sport Enjoyment**

The hypothesis that sport enjoyment will predict sport commitment and future expectancies to participate in this sport and in sport in general was tested (see Figure 9).

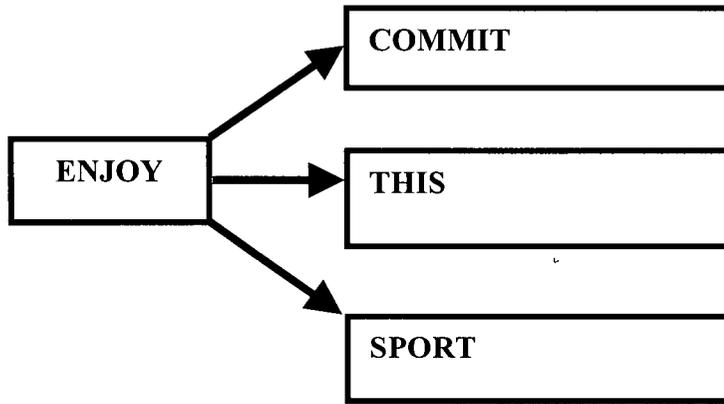


Figure 9 Hypothesized Prediction of Sport Commitment, Intention to Return to This Sport, and Intention to Return to Sport in General by Sport Enjoyment

Spearman correlations showed that enjoyment was moderately to sport commitment, intention to return to this sport, and intention to return to sport in general (see Table 2).

Three simple regression analyses were run with enjoyment as the predictor, and one of sport commitment, intention to return to this sport, and intention to return to sport in general as the dependent variable. The results of these analyses are presented in Table 6.

Table 6

Simple Regression Analyses of ENJOY Predicting COMMIT, THIS, and SPORT

Predictor Variable	Outcome Variable	$\beta$	$R^2$
ENJOY	COMMIT	.630*	.395*
	THIS	.578*	.331*
	SPORT	.279*	.074*

\*  $p < .05$

Both the correlation and regression analyses provided support for the hypothesis that sport enjoyment predicts sport commitment,  $F(1, 227) = 149.563$ ,  $R^2 = .395$ ,  $p < .05$ , intention to return to this sport,  $F(1, 227) = 113.665$ ,  $R^2 = .331$ ,  $p < .05$ . and intention to return to sport in general,  $F(1, 227) = 19.177$ ,  $R^2 = .074$ ,  $p < .05$ . Enjoyment explained 40% of the variance in sport commitment, 33% of the variance in future expectancies to participate in this sport, and 7% of the variance in future expectancies to participate in sport in general. These results seem in line with theory in that enjoyment predicted commitment/motivation. The relationship was much weaker with predicting

expectancies to participate in sport in general, as sport enjoyment, commitment, and expectancies for this sport all refer to affect and motivation in the sport in which the girl is presently participating. Expectancies to participate in sport in general may be influenced by experiences such as enjoyment in sports other than the present one. Again, these results should be regarded with caution because of violation of the assumptions of multiple regression due to the skewed nature of the enjoyment and intention to return variables.

#### **3.1.3.1.4 The Relationship Between Self-Worth and Sport Enjoyment**

The secondary hypothesis that the relationship between self-worth and sport enjoyment would be accounted for by the effect of friendship quality perceptions and athletic competence perceptions on sport enjoyment was then tested (see Figure 10).

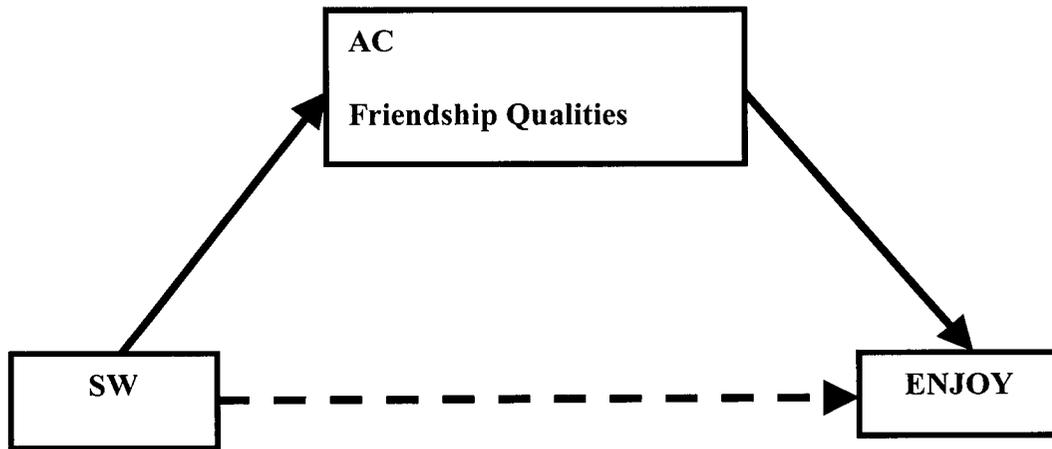


Figure 10 Hypothesized Mediation of the Relationship Between Self-Worth and Sport Enjoyment by Athletic Competence and Friendship Quality

In order to explore the possibility of a mediated relationship, the simple relationship between self-worth and sport enjoyment was first examined. Spearman correlations indicated that there was a weak, yet significant relationship between self-worth and sport enjoyment (see Table 2). A regression analysis was then run to see if self-worth predicted sport enjoyment. The results of this analysis are presented in Table 7.

Table 7

Simple Regression Analysis of SW for Prediction of ENJOY

Predictor Variable	$\beta$	$R^2$
SW	.126	.012

\*  $p < .05$

The equation found in this analysis was not significant, indicating that self-worth does not predict sport enjoyment,  $F(1, 227) = 3.680$ ,  $R^2 = .012$ ,  $p > .05$ . No further analysis were run to see if the relationship was mediated by athletic competence and friendship quality perceptions, as there was no relationship between global self-worth and enjoyment to mediate. The hypothesis that athletic competence perceptions and sport friendship quality perceptions mediate the relationship between self-worth and sport enjoyment was not upheld.

### **3.1.3.2 Primary Hypothesis**

#### **3.1.3.2.1 Comparison of Two Models of Participation Motivation**

To test the primary hypothesis that the proposed model of sport participation motivation (based on Figure 6) will provide a better fit to the data than the model of self-worth as a

mediator between the predictors and sport enjoyment (based on Figure 3), path analysis techniques were employed using *EQS*. The results of this analysis are presented in Figures 11 and 12.

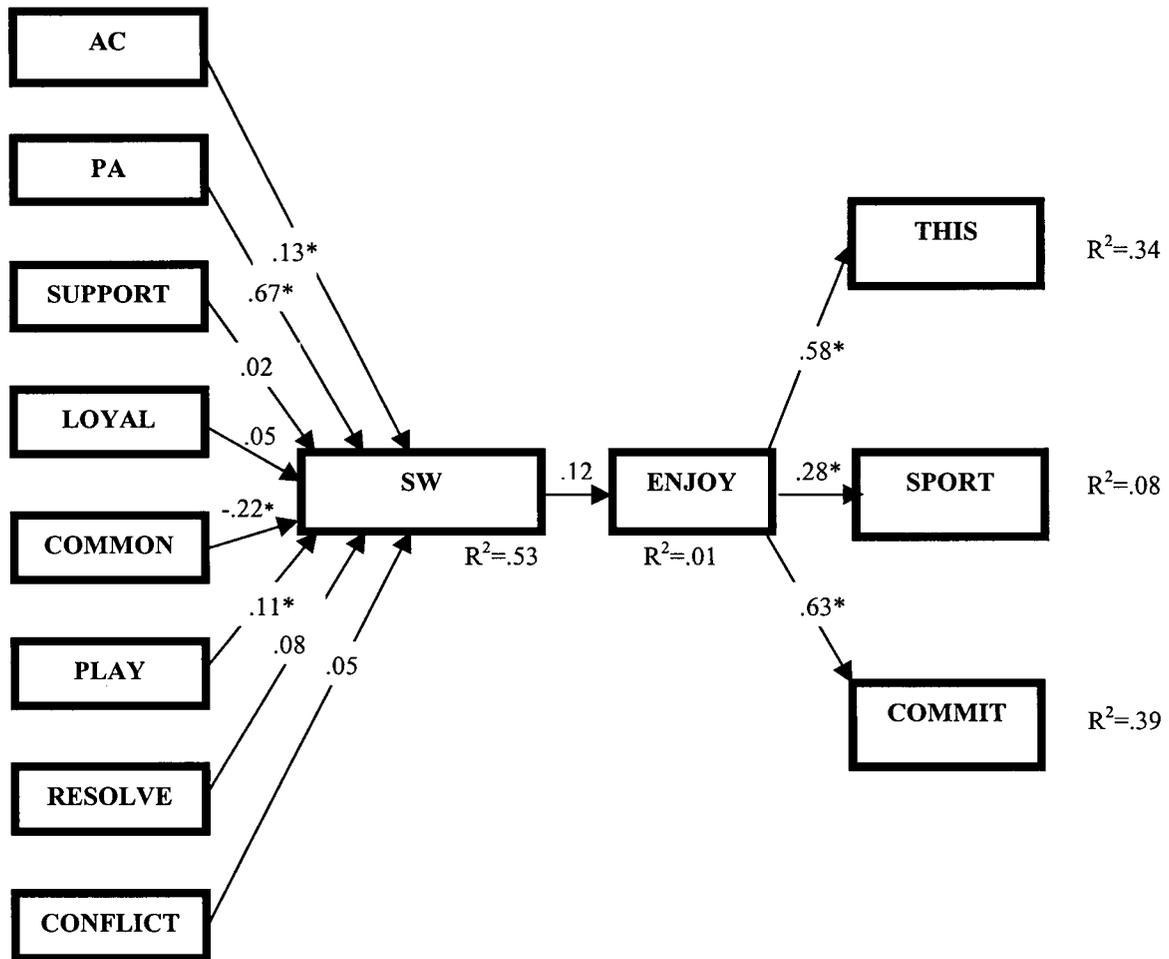


Figure 11 Path Analysis of the Model With Self-Worth as Mediator

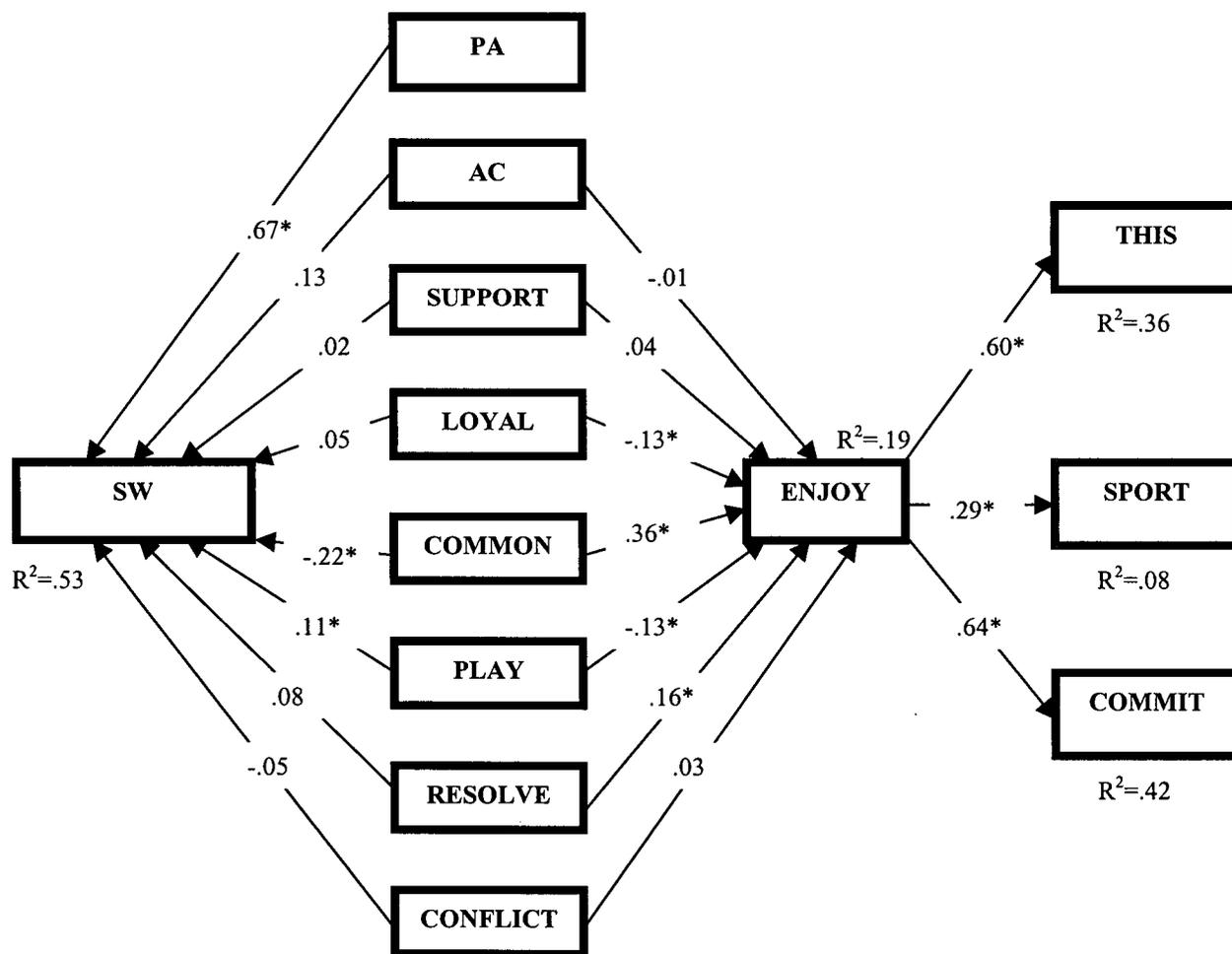


Figure 12 Path Analysis of the Proposed Model of Sport Participation Motivation

Neither model (Figures 11 and 12) works particularly well with the data. The problem with both models is that the self-perceptions and friendship quality dimensions are not strongly related to sport enjoyment and motivation. In the model depicted in Figure 11, the path between self-worth and enjoyment is not significant, which essentially cuts the model into two, unrelated sub-models. The model depicted in Figure 12 is slightly better, as there are low to moderate relationships between some of the friendship dimensions and sport enjoyment that links the two sides of the model. While neither model demonstrated a particularly good fit, the direct effects on enjoyment model was somewhat better as the two sides of the model were at least moderately connected. For this reason, further analyses were done using the direct effects model only.

#### **3.1.4 Model Modification**

Due to the poor model fit, further analysis was undertaken to find a more parsimonious model to fit the data. These model modification procedures were undertaken on an exploratory basis only, and their results must be interpreted with caution. Modeling tests such as path analysis are designed to test models, not build them. As with all analyses based on regression, they employ mathematical maximization techniques to find the best linear combination of predictor variables in the model to explain the outcome, and report the corresponding coefficients and indexes of explained variance. These methods are acceptable when the researcher has identified theoretically based models to test.

However, when one uses one set of data and changes the proposed relationships to best fit the data, there is a capitalization on chance. The likelihood of finding relationships and good model fit increases, but the results are more likely to be representative of the sample

rather than the target population, greatly limiting generalizability and interpretation of results (Pedhazur, 1997). For this reason, the following model modification results were undertaken to look for potential relationships for future study, not as evidence of particular relationships.

### 3.1.4.1 The Enjoyment-Motivation Relationship

Modification of the model began with an examination of the relationship between sport enjoyment and the three variables intended to measure sport motivation: sport commitment, intention to return to this sport, and intention to return to sport in general. Through the process of conducting the study it became apparent that the hypothesized relationships between these variables might have been flawed. Firstly, the variable measuring intention to return to sport in general (SPORT) was problematic. It was initially hoped that this variable would capture participants' future expectancies to return to playing *any* sport in the subsequent season. It was thought that this item would allow girls who were planning on remaining active sport participants in future seasons but were giving up their current sport in favor of another sport to be considered as distinct from those who are intending to drop out of sport entirely. However, only 11 girls scored less than 5 out of five on this item, and of those, 4 scored 4 out of 5. With so little variance, it was not meaningful to try to identify the predictors of this variable, or to use it as a predictor.

It seemed likely that the relationship between ENJOY, COMMIT, and THIS was more complex than initially predicted. While COMMIT and THIS are both indicators of motivation towards sport, COMMIT is reflective of present motivation, while THIS is indicative of future motivation. Since motivation for future participation is likely influenced by present motivation, a path connecting COMMIT to THIS was added to the model. These modifications to the latter half of the model were examined separately using path analysis, depicted in Figure 13.

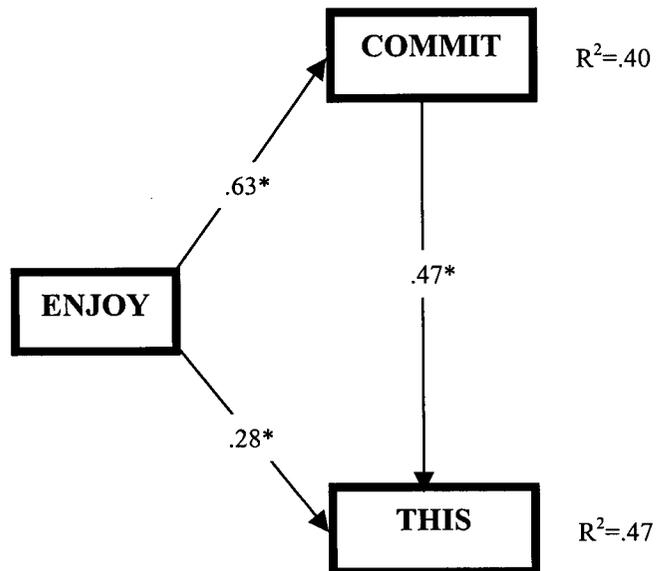


Figure 13 Path Analysis of the Relationship Between Sport Enjoyment, Commitment, and Intention to Continue in the Present Sport.

Notably, this model accounts for 47% of the variance in intention to continue in this sport, the outcome variable of greatest interest if we are interested in keeping kids in sport in the future. Most of this variance was predicted by commitment.

#### **3.1.4.2 Modifications To The Larger Model**

Since it appeared that the new model of the relationships between ENJOY, COMMIT, and THIS was better than that proposed in the initial model, modifications to the larger model were made with this sub-model in mind. Additionally, global self-worth was excluded from the modified model. The regression analyses and initial modeling analyses indicated that there was little connection between the two sides of the proposed model. Specifically, while one weak predictor of self-worth, things in common, was also a moderate predictor of sport enjoyment, the relationships were not very strong, and self-worth had no relationship with sport enjoyment, as shown in the regression analysis (see section 3.1.3.1.4).

A number of modified models were tested using structural equation modeling techniques to find the most parsimonious model that provided the best fit for the data. The resulting model appears in Figure 14.

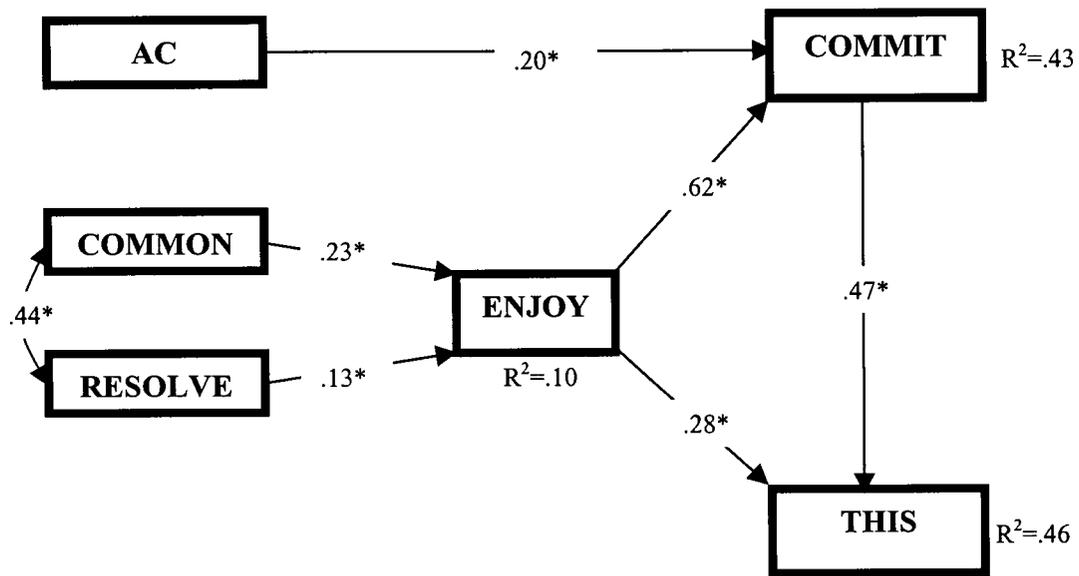


Figure 14 Simplest Modified Model Predicting Sport Enjoyment, Commitment, and Intention to Continue in This Sport

The prediction of intention to return to the same sport next season is reasonably high at 46%. Interestingly, athletic competence perceptions are a significant predictor of sport commitment in this model. In the initial model, athletic competence was proposed to predict sport enjoyment. This relationship did not prove significant in that model, suggesting that physical competence did not play a role in sport enjoyment. This modified model suggests that physical competence may predict motivation more directly. Since this is a modified model built to fit the data rather than a pre-determined model tested against the data, this predictive relationship is only suggested as a possible relationship for further study.

Despite the inclusion of perceptions of athletic competence and two friendship qualities, things in common and conflict resolution, they do not contribute much to the prediction of enjoyment and sport commitment. Enjoyment seems to be an important variable in the prediction of sport motivation, as a relatively large amount of the variance in commitment and intention to return is accounted for in this model, but very little of the variance in sport enjoyment is explained by any of the variables examined in this study. Again, the lack of variance in sport enjoyment in this study makes it difficult to determine both predictors and outcomes of enjoyment. Most of the variance in enjoyment does not appear to be accounted for by the variables measured in this study, but this may result from the lack of variance in enjoyment.

## CHAPTER 4

### 4.1 DISCUSSION

This study examined the relationships among physical self-perceptions, sport friendship quality perceptions, self-worth, sport enjoyment, sport commitment, and intentions to return to sport activities in the future among young adolescent females involved in team sports. This research is unique in that it not only examined the role of self- and social-perceptions in predicting sport affect and motivation, but it also explored the nature of the role of self-esteem in this process. By investigating the efficacy of models of participation motivation, not only can antecedents of motivation be identified, but also the processes by which they act can be better understood.

The present research found that girls who participate in sport tend to have very high levels of enjoyment and commitment, a finding that, while encouraging, made identification of the sources and process of enjoyment difficult to examine. Despite this limitation, hypotheses about the predictors of self-worth, enjoyment, and motivation, and about the role of self-worth in the participation motivation process were tested, and are presented below.

#### 4.1.1 Sport Enjoyment and Motivation to Participate

Young adolescent girls who participate in sport enjoy their activities a great deal. These girls also have a high level of commitment to their sports, and, most notably, they want to come back and play again in the future. These results were very strong and consistent. Only 37 of the total 227 participants indicated less than very likely on the intention to

return to this sport item. Even more girls were very certain of their intentions to return to some sport activity the following season even if the present activity was discontinued.

As positive as these results appear, such high levels of enjoyment and motivation levels may not be applicable to all girls this age. Previous research has produced similarly high results on sport enjoyment and commitment measures (Carpenter & Scanlan, 1998; Scanlan, Simons et al., 1993; Weiss et al., 2001). These studies are, however, all done with sport participants who have volunteered to participate in research. It is possible that girls who do not enjoy sport discontinue participation or do not participate in the first place, thus eliminating themselves from such studies.

It is possible that this study tended to include girls who were higher in sport enjoyment and motivation than typical girls their age, resulting in an overly positive view of sport enjoyment and participation in this population. Since the recruitment of participants and data collection were done at sport team practices and games, girls who did not attend practice regularly would be less likely to be recruited for this study. Additionally, it is possible that those girls who did not enjoy or feel committed to their sport would be less likely to want to stay after practice for fifteen minutes to complete the questionnaire, or to volunteer to complete a questionnaire about an experience that they found less than favorable. Alternatively, it is possible that these results paint an accurate picture that girls who are involved in sport enjoy it and want to keep playing. Those individuals who have lower levels of enjoyment may be quick to drop out of sport or change activities, thus eliminating themselves from the sport-involved population.

By design this study excluded girls who had already dropped out of sport or did not participate in the first place, girls who may also have lower levels of sport enjoyment. Non-participants were originally excluded because the study and available questionnaires in the area were aimed at asking girls about their present sport friendships and experiences, questions that could not be answered by non-participants. Given the extremely positive responses to sport enjoyment and commitment questions found in this and previous studies (i.e. Scanlan, Simons et al., 1993), it is felt that methods must be found to include non-participants and ex-participants in future studies in order to get a wider range of data on sport enjoyment and motivation variables if predictive relationships are to be studied. In addition, there is a need to follow participants over time to determine the link between future expectation and actual future behavior.

#### **4.1.2 Predictors of Self-Worth**

Mean levels of self-worth in this sample were higher than those previously reported in non-sport samples (Harter, 1985), a finding that is consistent with the view that sport participation enhances self-worth perceptions. Tests of the hypothesis that perceptions of sport friendship qualities, athletic competence, and physical attractiveness would be related to global self-worth, and that physical attractiveness perceptions would be the strongest predictor of self-worth were partially supported. Both correlational and multiple regression analyses revealed that physical attractiveness perceptions were indeed the strongest predictor of self-worth, a finding that is in line with previous research (Crocker et al., 2001; Fox et al., 1994; Harter, 1999). Athletic competence perceptions,

self-esteem enhancement and supportiveness, companionship and pleasant play, conflict resolution, and conflict were also related to self-worth, but when the effect of physical attractiveness perceptions was taken into account, their contribution to self-worth was small, in the case of athletic competence, or insignificant, in the case of the friendship quality perceptions.

The relationships between self-worth and physical attractiveness and athletic competence are well documented in the literature (Harter, 1999), showing that how attractive and competent these girls see themselves to be will influence their perceptions of their value as a person. From this study it appears that sport friendship quality has little impact on predicting one's perceptions of self-worth. This lack of a relationship seems curious, especially in light of theories such as Leary et al's (1998) sociometer theory stating that self-esteem is in essence a gauge of the presence and quality of social relationships in a person's life. It may be that these girls are still too young to depend strongly on friends for their social needs, or it could be that the friendship quality of their best sport friend is not the critical peer relationship factor contributing to self-esteem. Alternatively, it is possible that social inclusion is not well captured by friendship quality, and that other aspects of peer social relationships such as peer acceptance may better predict self-worth. Most teams included in this study meet two to three times per week for practices and games. This amount of time may not be long enough for strong friendships to develop. However, these were predominantly community-based teams that drew their participants from a small geographical area, and many of the teammates likely spent time together outside of sport at school, at home, and in other extra-curricular activities. The mean

scores on the friendship quality scales were quite high (with the exception of conflict which was, predictably, very low) suggesting that on average, these girls viewed their sport friendships as being very close and supportive. If peer relationships in sport do have an effect on self-worth in this population it may be that other aspects of friendship or peer acceptance may be the critical factors rather than friendship quality. Friendship and peer acceptance appear to have independent effects on self-worth among youth in non-sport settings (Bukowski & Hoza, 1989; Bukowski & Newcomb, 1987 as cited in Asher et al, 1990), suggesting that multiple aspects of peer relationships are potential influences on self-esteem in the sport context. Friendship quality may be more critical for dealing with specific contextual stress matters in sport rather than influencing general affective states such as sport enjoyment.

#### **4.1.3 Predictors of Sport Enjoyment**

The hypothesis that perceptions of each of the six dimensions of friendship quality and perceptions of athletic competence would contribute to sport enjoyment was not well supported. Physical competence was unrelated to sport enjoyment in all analyses conducted. The only friendship quality that consistently emerged as a predictor of sport enjoyment was things in common, but the relationship was small. It appears that having a friend in sport with whom one shares interests, activities, and values contributes slightly to sport enjoyment for early adolescent females, but that the major predictors of sport enjoyment were not identified in this study.

One of the problems with testing this hypothesis was the lack of variance in sport enjoyment in this sample. A variable with little or no variance cannot be predicted or used as a predictor because it is essentially a constant. The lack of variation violates the assumptions of regression, and causes results to be suspect. Therefore, even if physical competence and friendship quality do predict sport enjoyment, they will not emerge in the correlation or regression analysis as predictors, as there is no variance to predict. As a result, it is unknown from this study whether being good at sports and having close, supportive friendships contribute to higher levels of sport enjoyment. It is possible that they do, but that the lack of variance in sport enjoyment made it impossible to see the relationship. Previous research indicates that young adolescent athletes tend to have a very positive view of their sport experiences (Carpenter & Scanlan, 1998; Scanlan & Simons, 1992; Scanlan, Simons et al., 1993; Weiss, Kimmel, & Smith, 2001), and as such sport enjoyment may not be a key variable discriminating between girls who are motivated to participate in sport, versus those who are not. It is also possible that the key predictors of sport enjoyment were not included in this study, but given the lack of variance in enjoyment it is impossible to tell. Descriptive studies have suggested that sport enjoyment may also stem from effort perceptions, learning new skills, sport achievement, performance recognition, coach support, parental involvement and support, positive team interactions, life opportunities such as travel, and the physical act of playing a particular sport, (Scanlan, Carpenter et al., 1993; Scanlan & Lewthwaite, 1986; Scanlan, Stein, & Ravizza, 1989). Further research needs to be done with a population that has a wider variance in sport enjoyment in order to study its predictors and outcomes.

Another possibility is that the measure of sport enjoyment used contributed to the lack of variance in sport enjoyment. The enjoyment scale of the Sport Commitment Model (Scanlan, Simons et al., 1993) used in this study is a measure of general affective aspects of sport enjoyment such as fun, happiness, liking, and enjoyment. Other measures of sport enjoyment, such as the Physical Activity Enjoyment Scale (PACES) (Kendzierski & DeCarlo, 1991) include general affective aspects and other elements related to sport enjoyment such as competence motives, excitement, and sensations (Crocker, Bouffard, & Gessaroli, 1995). The problem with this measure, however, is that it may be measuring both antecedents and perceptions of enjoyment (Crocker et al., 1995). Using a measure such as this would complicate attempts to determine predictors of sport enjoyment as it would be unclear whether relationships with proposed antecedents were with sport enjoyment or other correlates and antecedents included in the sport enjoyment measure. The underlying issue that needs to be addressed in this area is how sport enjoyment should be conceptualized and measured (Crocker et al., 1995).

#### **4.1.4 The Enjoyment-Motivation Relationship**

The hypothesis that sport enjoyment would predict sport commitment and future expectancies to participate in sport was supported. As has been previously documented (Scanlan, Simons et al., 1993), sport enjoyment is a strong predictor of sport commitment. Girls who enjoy sport tend to be more dedicated to the activity. Girls who enjoy sport are also more likely to want to continue playing that sport in the future, as was demonstrated by the strong relationship with intention to continue in the present sport. The relationships with intention to continue in sport in general were weaker,

suggesting that enjoyment in a particular activity leads to intention to participate in that activity, and is only somewhat generalizable to other activities. Conversely, it may also indicate that a participant may intend to return to another sport even if enjoyment and motivation in the present sport is low. The latter possibility is likely in light of previous research demonstrating that one of the biggest reasons that kids discontinue participation in a particular sport is to devote their time to another activity (Weiss & Petlichkoff, 1989). Dropping out of one sport to play another becomes more likely when greater specialization and more time commitment are required to continue participation in a particular sport. This may be especially salient as children get older and skill level and training requirements increase, or as they move from community-based teams into elite level teams. From a health perspective, dropping out of one sport to specialize in another is of little concern as long as the activity level is maintained. Therefore, in studies of participation motivation where the goal is to understand motivation to be active in sport generally, it is important to distinguish between participants who are likely to or have dropped out of sport entirely, as opposed to those who have dropped out to specialize in a particular sport, especially when dealing with a population that is at an age where increasing specialization requirements may be an issue.

The strong link between sport enjoyment and commitment and intentions to continue participation must be interpreted with caution. Just as sport enjoyment was difficult to predict due to a lack of variance, it is a poor predictor for the same reason. In addition, both intention to return to this sport and intention to return to sport in general were also skewed and had little variation. So while the positive relationships between enjoyment,

commitment and intentions to continue were in line with theory and previous research (Carpenter & Scanlan, 1998; Scanlan, Simons et al., 1993; Weiss et al., 2001), the evidence gained from this study is taken with caution due to the lack of variance and violation of regression assumptions.

#### **4.1.5 The Self-Worth-Sport Enjoyment Relationship**

The hypothesis that the relationship between self-worth and sport enjoyment would be accounted for by the effect of friendship quality perceptions and athletic competence perceptions on sport enjoyment became a moot point when no significant relationship was found between self-worth and sport enjoyment. This lack of a relationship suggests that while self-worth may be an important affective construct in terms of general mental health, it is not predictive of affect and motivation, at least not in sport. Since self-worth is a product of some combination of one's experiences and emotions, it may be so removed from any of its sources to not be predictive of such specific constructs as sport enjoyment.

Again, however, this finding comes with a caveat. The non-normal distribution and lack of variance of enjoyment violate the assumptions of regression analysis and make it difficult to predict enjoyment. It is possible that the inability to find a relationship is due to the lack of variance in self-worth rather than the true absence of a predictive relationship. Answering this question would require further research with a population that had more variance in their levels of sport enjoyment.

Previous research in sport has called into question the predictive utility of self-worth. Ebbeck and Weiss (1998) found that self-worth may both predict and be predicted by sport-related affect, and that perceived competence may directly predict sport-related affect without being mediated by self-esteem. Equivocal studies such as this do little to clarify the understanding of self-worth, but do open up the possibility that the role of self-worth in sport is not as clear as Harter's (1987) and Weiss' (2000) models may suggest.

#### **4.1.6 Models of Participation Motivation**

In terms of the primary hypothesis that a model of direct effects on sport enjoyment would provide a better fit to the data than a model where self-worth mediates the relationship between the predictors and sport enjoyment, path analyses demonstrated that neither model fit the data particularly well. The direct effect model was somewhat better in that there was no mediational role of self-worth, a relationship on which the mediational model depends to connect the two sides of the model. Since most of the friendship qualities were not strongly tied to self-worth or sport enjoyment, neither model worked well. The biggest implication of these findings is that self-worth does not appear to play a central role in sport motivation. Again, a problem with interpreting these findings is the lack of variance in sport enjoyment. Since enjoyment is central to both models, and its lack of variance makes it difficult to identify its predictors and outcomes in this sample, it is difficult to determine which model is better because it is unclear whether poor fit is due to an incorrect model or the lack of variance in enjoyment.

There are three ways that future research could shed some light on this issue. First, a study using a population with a larger variance in sport enjoyment may result in a more decisive comparison of the two models. Another possibility is that more potential predictors of sport enjoyment need to be identified and included in the model if future research determines that friendship qualities and physical self-perceptions are not the keys. Alternatively, it may be fruitful to look at other affective states and indicators of motivation that are more normally distributed in young adolescent athletes. If almost all participating athletes have high levels of sport enjoyment, and yet athletes continue to drop out of sport, there may be other affective elements, for example, anxiety, that play a more key role in predicting motivation.

#### **4.1.7 Modifying the Model**

Model modification procedures were undertaken as exploratory since the proposed models both did not fit the data well. Since these procedures tend to capitalize on chance the results lose generalizability, and as such can only be viewed as suggestions for further study, not as confirmation of the presence of relationships (Pedhazur, 1997). The results of the model modification process yielded some interesting points for further study.

First, while sport enjoyment predicts sport commitment and future expectancies in this sport, it appears that sport commitment may also predict expectancies in the present sport. This makes intuitive sense, as it states that if sport is fun for a girl, she will be more dedicated to it now, both of which will lead her to want to return in the future.

When this relationship is included in the model, more of the variance in future expectancies can be explained, which is the goal of participation motivation research.

The most parsimonious model that emerged included a predictive relationship between athletic competence and sport commitment that was not conceived of in the original model. It seemed surprising in the initial analyses that athletic competence was not related to sport enjoyment, as it was expected that a girl felt that she was good at her sport, it would be a more pleasant experience. A direct relationship with sport commitment may also make sense, however, as according to effectance motivation theory (Harter, 1978, 1982) if a person is good at something they will be motivated to continue pursuing it in order to continue demonstrating competence. While it was thought that this would occur because success was an enjoyable experience, this may not be the case. Physical competence may lead one to persist at an activity merely because one is good at it, not necessarily because being good at it is fun. Previous research has linked athletic or physical competence perceptions to attraction to sport (Brustad, 1993), and participation (Feltz & Petlichkoff, 1983). The participants in this study reported higher perceptions of athletic competence than were found in previous studies in a non-sport context (Harter, 1985), a finding that is consistent with the view that higher perceptions of athletic competence are associated with sport participation.

Two friendship qualities emerged as predictors of sport enjoyment in the model modification analyses: things in common and conflict resolution. Again, while these are only tentative possibilities for further study, it suggests that girls who have friends with whom they feel similar and who are able to solve problems and conflicts in their relationship may have a more enjoyable sport experience. This is very tentative,

however, as the variance in enjoyment explained by these two variables combined was only 10%. Again, the lack of variance in sport enjoyment made it difficult to identify predictive relationships.

## **4.2 LIMITATIONS**

This study had a number of limitations related to the lack of variance in some variables, the use of path analysis in analyzing the two models, the demographics of the target population, including only community sport participants, including only team sport participants, the use of volunteers as participants, and the geographic location of the participants' teams.

The lack of variance and non-normal distributions of sport enjoyment, intention to return to this sport and intention to return to sport in general created limitations for this study. These problems lead to a violation of the assumptions of regression and path analysis, making relationships difficult to test and interpret. As a result, tests involving predicting or determining outcomes of sport enjoyment and intentions to return were suspect.

The use of path analysis to compare the proposed models was another limitation of this study. While path analysis is a valuable tool for analyzing the fit of hypothesized models, it has a number of restrictive assumptions. Perhaps most importantly, path analysis assumes that the variables are measured without error. The variables used in this study are unobservable, or latent variables, which are estimated by multiple indicators in the form of a scale. These measured variables are almost certainly not error free,

resulting in a violation of the assumptions of path analysis (Pedhazur, 1997). The more complex methods of structural equation modeling can incorporate the multiple indicators and their errors into the analysis, providing a more complete and realistic examination of the data.

The results of this study are specific to a population of young adolescent females involved in community based team sports. It is not reasonable to generalize these results to girls of other ages or involved in other sports or activities, to boys, or to young people not involved in sport. One limitation is that this study is based on a sample of girls who volunteered to participate in this research study. It is possible that the volunteers differ from non-volunteers. Those who volunteer to stay for fifteen minutes after practice and answer questions about their sport experiences may be more likely to enjoy and be committed to sport and have more positive perceptions of their sport friends than those who do not want to participate.

The results are specific to a population of girls involved in community based team sports, as opposed to elite sport or school-based sports. While the girls in the sample had a range of sport involvement and skill level, their teams typically practiced only once or twice a week and met for weekly games during their competitive season. This is in contrast with many elite level sports where training may be daily and often continues year-round. Most teams were also part of larger community sport organizations with multiple teams in the same age group so that all girls who wanted to were able to play on a team, regardless of skill level. This is in contrast to many elite and school-based sports where

positions on the team are limited and some people are eliminated based on skill level. Therefore, while this study represented a large population of community sport participants, its results are not necessarily generalizable to other types of sport or physical activity.

Finally, the areas that the girls who composed the sample in this study were from represent a limitation to the generalizability of the findings of this study. Most of the girls who participated in this study played on teams situated in predominantly middle- to upper-class neighborhoods in a large urban center. While including girls on teams from other neighborhoods was attempted, and in some cases achieved, there were more teams in middle- to upper-class neighborhoods from which to recruit participants, and these sport teams and organizations were often more easily contacted due to their extensive use of web pages, email, and voice messaging technology. As a result it was comparatively difficult to find and make contact with teams in other areas. Therefore, the results of this study are not generalizable outside of a middle- to upper-class population of female sport participants.

#### **4.4 FUTURE DIRECTIONS**

One consideration for future research is how response rate could be improved. In this study, two major barriers to participation in the study were identified: girls forgetting to return signed consent forms, and parents being unable to wait an extra fifteen minutes while the girls completed the questionnaire. Finding ways to overcome such barriers may aid in improving response rate.

A population of young adolescent girls with more diversity in their enjoyment of and motivation to participate in sport needs to be studied in order to examine predictors and outcomes of sport related affect and motivation. Alternatively, it is possible that the uniformly positive responses to enjoyment and intention to return questions are typical of this population, and that other sport-related affective elements and indicators of motivated behavior need to be examined to better understand the participation motivation process.

Future studies also need to examine sport-related social relationships in ways other than sport friendship quality before many conclusions can be drawn about the role of friendship in sport participation motivation. Friendship quality may not have been a key predictor of enjoyment and motivation in this study due to lack of variance in enjoyment, but it is also possible that it is simply not an important social variable in predicting motivation. Other aspects of peer relationships such as peer acceptance, or having a friend or peer group who are interested in sport may be important indicators of enjoyment and motivation.

Other predictors of sport enjoyment need to be identified and examined for their predictive power. Work with the Sport Commitment Model (Scanlan, Simons et al., 1993) has detailed the relationship between sport enjoyment and commitment, but work on the predictors of sport enjoyment remains descriptive. Scanlan and Lewthwaite's (1986) two-dimensional framework of sources of sport enjoyment provides a means of

organizing and conceptualizing sport enjoyment sources, but as it is purely descriptive, a clear understanding of how those sources affect sport enjoyment remains elusive.

While the models examined were able to predict a large proportion of future expectancies to participate in the present sport, over half of the variance remained unexplained by sport commitment and enjoyment, regardless of the model configuration. There are other factors contributing to participation besides enjoyment and commitment. In developing the Sport Commitment Model, Scanlan, Simons et al., (1993) found that attractive alternatives to participation, personal investments, social constraints, and involvement opportunities are also predictors of sport commitment. Work by Weiss, Kimmel, & Smith (2001), however, suggests that none of these other constructs make large contributions to the prediction of sport commitment, and that sport enjoyment is by far the dominant predictor. Further research is clearly needed to identify other constructs contributing to participation motivation.

Finally, even if friendship quality does not play a role in predicting sport enjoyment and motivation, it may be a variable of interest in other areas. Friendship qualities such as self-esteem enhancement and supportiveness may not be called upon on a regular basis, and as such may not be predictive of constructs such as global motivation. They may become more important in situations where the friend is called upon to be available to provide resources implied by friendship qualities. For example, conflict resolution capabilities of one's friend may only be critical in times of conflict in the friendship. In this way, friendship quality and social support bear some striking similarities, and may

have similar functions in the stress and coping process. Such relationships are, at this point, only possibilities, but could provide interesting lines of future study.

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**APPENDICES**

**APPENDIX A**

Athletic Competence, Physical Attractiveness, and  
Global Self-Worth Subscales from the  
Self-Perception Profile for Children

## WHAT I AM LIKE

The following are statements that allow kids to describe themselves. There are no right or wrong answers since kids differ markedly. Please read the entire sentence across. First decide which one of the two parts of each statement best describes you; then go to that side of the statement and check whether that is just sort of true for you or really true for you. You will just check ONE of the four boxes for each statement.

### SAMPLE SENTENCE

Really True for me	Sort of True for me		Sort of True for me	Really True for me		
<input type="checkbox"/>	<input type="checkbox"/>	Some kids would rather play outdoors in their spare time	<b>BUT</b>	Other kids would rather watch T.V.	<input type="checkbox"/>	<input type="checkbox"/>

Really True for me	Sort of True for me		Sort of True for me	Really True for me		
1. <input type="checkbox"/>	<input type="checkbox"/>	Some kids do very <i>well</i> at all kinds of sports	<b>BUT</b>	Other kids <i>don't</i> feel that they are very good when it comes to sports.	<input type="checkbox"/>	<input type="checkbox"/>
2. <input type="checkbox"/>	<input type="checkbox"/>	Some kids are <i>happy</i> with the way they look	<b>BUT</b>	Other kids are <i>not</i> happy with the way they look.	<input type="checkbox"/>	<input type="checkbox"/>
3. <input type="checkbox"/>	<input type="checkbox"/>	Some kids are often <i>unhappy</i> with themselves	<b>BUT</b>	Other kids are pretty <i>pleased</i> with themselves.	<input type="checkbox"/>	<input type="checkbox"/>
4. <input type="checkbox"/>	<input type="checkbox"/>	Some kids wish they could be a lot better at sports	<b>BUT</b>	Other kids feel that they are good enough at sports.	<input type="checkbox"/>	<input type="checkbox"/>
5. <input type="checkbox"/>	<input type="checkbox"/>	Some kids are <i>happy</i> with their height and weight	<b>BUT</b>	Other kids wish their height and weight were <i>different</i> .	<input type="checkbox"/>	<input type="checkbox"/>

Really True for me	Sort of True for me		BUT		Sort of True for me	Really True for me
6. <input type="checkbox"/>	<input type="checkbox"/>	Some kids don't like the way they are leading their life		Other kids <i>do</i> like the way they are leading their life.	<input type="checkbox"/>	<input type="checkbox"/>
7. <input type="checkbox"/>	<input type="checkbox"/>	Some kids think they could do well at just about any new sports activity they haven't tried before		Other kids are afraid they might <i>not</i> do well at sports they haven't ever tried.	<input type="checkbox"/>	<input type="checkbox"/>
8. <input type="checkbox"/>	<input type="checkbox"/>	Some kids wish their body was <i>different</i>		Other kids <i>like</i> their body the way it is.	<input type="checkbox"/>	<input type="checkbox"/>
9. <input type="checkbox"/>	<input type="checkbox"/>	Some kids are <i>happy</i> with themselves as a <b>person</b>		Other kids are often <i>not</i> happy with themselves.	<input type="checkbox"/>	<input type="checkbox"/>
10. <input type="checkbox"/>	<input type="checkbox"/>	Some kids feel that they are <i>better</i> than others their age at sports		Other kids <i>don't</i> feel they can play as well	<input type="checkbox"/>	<input type="checkbox"/>
11. <input type="checkbox"/>	<input type="checkbox"/>	Some kids wish their physical appearance (how they look) was <b>different</b> .		Other kids <i>like</i> their physical appearance the way it is.	<input type="checkbox"/>	<input type="checkbox"/>
12. <input type="checkbox"/>	<input type="checkbox"/>	Some kids <i>like</i> the kind of <i>person</i> they are		Other kids often wish they were someone else.	<input type="checkbox"/>	<input type="checkbox"/>
13. <input type="checkbox"/>	<input type="checkbox"/>	In games and sports some kids usually <i>watch</i> instead of <b>play</b>		Other kids usually <i>play</i> rather than just watch.	<input type="checkbox"/>	<input type="checkbox"/>
14. <input type="checkbox"/>	<input type="checkbox"/>	Some kids wish something about their face or hair looked <i>different</i>		Other kids <i>like</i> their face and hair the way they are.	<input type="checkbox"/>	<input type="checkbox"/>

Really True for me	Sort of True for me		BUT		Sort of True for me	Really True for me
15. <input type="checkbox"/>	<input type="checkbox"/>	Some kids are very <i>happy</i> being the way they are		Other kids wish they were <i>different</i> .	<input type="checkbox"/>	<input type="checkbox"/>
16. <input type="checkbox"/>	<input type="checkbox"/>	Some kids <i>don't</i> do well at new outdoor games		Other kids are <i>good</i> at new games right away.	<input type="checkbox"/>	<input type="checkbox"/>
17. <input type="checkbox"/>	<input type="checkbox"/>	Some kids think that they are good looking.		Other kids think that they are not very good looking.	<input type="checkbox"/>	<input type="checkbox"/>
18. <input type="checkbox"/>	<input type="checkbox"/>	Some kids are not happy with the way they do a lot of things		Other kids think the way they do things is <i>fine</i> .	<input type="checkbox"/>	<input type="checkbox"/>

**APPENDIX B**

**The Sport Friendship Quality Scale**

## MY BEST FRIEND IN SPORT

The items below have to do with you and a person you consider to be your best friend *in sport*. This could be a friend at on this team or someone on another team. We would like you to think *only* about this individual as you answer the questions. They are about what you and your friend may do or say with each other. Think of the best friend you have in sport. Write that person's first name or initials below.

**My best friend in sport is:**

---

Circle the answer below each statement that best indicates how you feel about you and *the friend you named*

---

### SAMPLE SENTENCE

My friend and I watch TV together

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

---

1. My friend gives me a second chance to perform a skill

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

2. My friend and I can talk about anything

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

3. My friend and I have common interests

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

4. My friend and I do fun things

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

5. My friend and I make up easily when we have a fight

not at all true      a little true      somewhat true      pretty true      really true

**Write your friend's name or initials again here:**

---

6. My friend and I get mad at each other

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

7. My friend and I praise each other for doing sports well

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

8. My friend and I stick up for each other in sports

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

9. My friend and I do similar things

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

10. I like to play with my friend

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

11. My friend and I try to work things out when we disagree

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

12. My friend and I fight

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

13. My friend looks out for me

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

14. After I make mistakes, my friend encourages me

not at all true      a little true      somewhat true      pretty true      really true

**Write your friend's name or initials again here:**

---

15. My friend and I have the same values

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

16. When we have an argument, my friend and I talk about how to reach a solution

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

17. My friend and I play well together

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

18. My friend and I have arguments

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

19. My friend and I think the same way

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

20. My friend and I tell each other secrets

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

21. My friend and I spend time together

not at all true      a little true      somewhat true      pretty true      really true  
                                                                                       

22. My friend has confidence in me during sports

not at all true      a little true      somewhat true      pretty true      really true

**APPENDIX C**

**Sport Enjoyment and Sport Commitment Subscales**

**from The Sport Commitment Model**

**TELL US ABOUT YOUR EXPERIENCE IN SPORT**

1. Do you *enjoy* playing this sport this season?

- Not at all       A little       Sort of       Pretty Much       Very Much

2. Are you *happy* playing this sport this season?

- Not at all       A little       Sort of       Pretty much       Very Much

3. Do you have *fun* playing this sport this season?

- Not at all       A little       Sort of       Pretty much       Very Much

4. Do you *like* playing this sport this season?

- Not at all       A little       Sort of       Pretty Much       Very Much

5. How dedicated are you to playing this sport this season?

- Not at all dedicated       A little dedicated       Sort of dedicated       Dedicated       Very dedicated

6. How hard would it be for you to quit this sport?

- Not at all hard       A little hard       Sort of hard       Hard       Very hard

7. How determined are you to keep playing in this sport?

- Not at all determined       A little determined       Sort of determined       Determined       Very determined

8. What would you be willing to do to keep playing in this sport?

- Nothing at all       A few things       Some things       Many things       A lot of things

**APPENDIX D**

**Intention to Return to Sport Items**

## **TELL US ABOUT YOUR EXPERIENCE IN SPORT**

How likely are you to return to playing *this* sport next season?

- Not at all likely     Not likely     So-so     Likely     Very likely

How likely are you to continue participating in sports next season?

- Not at all likely     Not likely     So-so     Likely     Very likely

**APPENDIX E**

Ethnic Identity Questionnaire

## TELL US ABOUT YOURSELF

What is your ethnic origin? (Please check ALL that apply)

- |  |                                      |                                   |
|--|--------------------------------------|-----------------------------------|
| <input type="checkbox"/> Chinese           | <input type="checkbox"/> East Indian | <input type="checkbox"/> Polish   |
| <input type="checkbox"/> Native/Aboriginal | <input type="checkbox"/> German      | <input type="checkbox"/> French   |
| <input type="checkbox"/> Italian           | <input type="checkbox"/> Persian     | <input type="checkbox"/> Dutch    |
| <input type="checkbox"/> Korean            | <input type="checkbox"/> British     | <input type="checkbox"/> Scottish |
| <input type="checkbox"/> Greek             | <input type="checkbox"/> Hispanic    | <input type="checkbox"/> Filipino |
| <input type="checkbox"/> Irish             | <input type="checkbox"/> Portuguese  | <input type="checkbox"/> Jewish   |
| <input type="checkbox"/> Australian        | <input type="checkbox"/> Vietnamese  | <input type="checkbox"/> Japanese |

Other ethnic or cultural group(s).

Please specify: \_\_\_\_\_

I do not belong to an ethnic or cultural group.