Social Motivation in Youth Sport

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ABSTRACT

Youth sport participants frequently report social reasons for their involvement in sport such as wanting to be part of a team or to be with friends and social sources of positive affect. Although research suggests social aspects of sport are salient to participants, the desire for social bonds with significant others as a goal of action in sport contexts has not been examined with respect to explaining children's and adolescents' motivation in sport. Current theoretical perspectives on youth sport motivation emphasise physical ability and physical ability-related constructs. There is a lack of incorporation of social motivational constructs such as social orientations and perceived belonging. Therefore, the general purpose of this research was to present a social motivational approach to understanding the psychological processes underpinning children's and adolescent's thoughts, feelings, and actions in sport. In this thesis, it was proposed that sport involvement is meaningful to participants because of its inherent opportunities for social interactions. Further, that the quality of participants' motivation can be explained by their social motivational orientations and perceptions of belonging in sport. Structural equation modelling techniques (i.e., confirmatory factor analysis and path model analysis) were employed to empirically evaluate measurement and path models reflecting the propositions forwarded in the proposed social model of motivation. Social motivational orientations, perceptions of belonging, and interest/enjoyment of 348 high school pupils were assessed in sport and education domains. Results of the measurement development phase of the investigation indicated adolescents' social orientation toward sport was adequately captured with three social motivational orientations (i.e., affiliation, social status, social recognition). These orientations also demonstrated stability across sport and education domains. Evidence was also provided supporting the construct validity and reliability of the social motivational orientations measure and a measure of perceived belonging adapted for sport. Path model analyses provided empirical support for the proposed social motivation model. The social motivation model accounted for up to 35% of the variance in sport interest/enjoyment. Evidence was also provided supporting the social motivation model with regard to predicting interest/enjoyment at school. This research provided support for a theoretically-based motivational approach capturing the salience of social aspects of sport for understanding the psychological processes underpinning children's and adolescents' cognitions, affect, and behaviours in sport and school. Several of the opportunities this model presents researchers to develop and refine research in youth sport in the area of social motivation are discussed.
DEDICATION

In loving memory of my grandma
Alice A. Mollison (1908-2000)
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CHAPTER ONE: INTRODUCTION

Sport matters...... Most of us will never turn out to be champions. But we know sport offers friendship, rivalry, challenge and enjoyment. And we know, most of all, that sport isn't just about being healthy: sport is fun -- one of the good things in life.

For all of us who take up sport, a good start in the early years is important ...... we are much more likely to get the pleasure and the benefit of sport, and to keep the habit as we grow older, if we develop it early.

Tony Blair (DCMS, 2000a)

Sport matters. In this excerpt from the UK Government’s vision for sport in the 21st century, Prime Minister Tony Blair extols the virtues of sport and the importance of positive experiences in sport as children (DCMS, 2000a). Whether informed by research or based on personal experience and intuition it is clear that many politicians, researchers, and practitioners alike believe the key to maintaining sport involvement lies in making the experience enjoyable (DCMS, 2000a; Freedson & Rowland, 1992; Pinel, 1997; Scanlan & Simons, 1992; Weiss, 1993). Such sentiment is not new, nor are the Government’s statements regarding the benefits of sport such as "sport helps give young people self-esteem and confidence, and the ability to work both as individuals and in teams" (DCMS, 2000b, p. 1). However, as Martens (1993) stated "sport is like a double-edged sword. Swung in the right direction the sword can have tremendously positive effects, but swung in the wrong direction it can be devastating" (p.17).

At the heart of understanding the impact the ‘sport sword’ will have on children and adolescents is individuals' motivation. Motivation is the combination of psychological processes that act to provide direction, regulation, and intensity to our behaviour (Ford, 1992; Roberts, 2001). Motivation is the combination of psychological processes that underpin individuals' attitudes towards sport, their commitment, effort regulation, discrete goals, attributional patterns, and affective responses to sport. Despite being probably the most researched topic in sport psychology, motivation still manages to perplex researchers and practitioners alike. The present research adopts a motivational perspective for understanding psychological processes active in youth sport and the psychosocial consequences of participation. Within this framework emphasis is given to social motivation, an aspect of motivation that has received little direct attention to date but one that has potential to add to the breadth of understanding of the psychological processes that underpin individuals' motivation in sport.
A rationale for social motivation in youth sport

Individuals report a wide variety of reasons for engaging in physical activities including motives related to social aspects of involvement. The participation motives most commonly reported in research include three categories that are directly social in nature. These reasons are affiliation reasons such as being with friends or making new friends, team aspect reasons such as being part of a group or team, and social status/recognition reasons such as feeling important, or pleasing others (Gill, Gross, & Huddleston, 1983; McCullagh, Matzkanin, Shaw, & Maldanado, 1993; Passer, 1982). In addition, the salience to participants of social sources of positive affect in sport has been clearly demonstrated (e.g., Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993; Scanlan & Lewthwaite, 1986; Scanlan & Simons, 1992; Scanlan, Stein, & Ravizza, 1989). Research by Scanlan and colleagues with young sports participants found that social sources of enjoyment such as the social opportunities sport provides (e.g., friendship opportunities, coach or parent relationships) and social recognition of physical competence are commonly reported. In short, individuals appear to do things they enjoy doing and they appear to enjoy the social opportunities sport provides. This research indicates individuals' desire for the social experience, interaction with others, sense of belonging, recognition and approval of others and provides evidence that the social side of sport is important to participants.

With regard to understanding the motivational processes in sport evidence supporting the salience of social motivational orientations comes from early theoretically-based approaches to motivation research in education and sport (Maehr & Nicholls, 1980; Nicholls, Patashnick, & Nolen, 1985; Ewing, 1981). This research included a social approval goal orientation as one of three universal definitions of success or achievement goal orientations. For example, in a study of high school students Ewing (1981) found that she was able to distinguish between students who remained involved in sport (i.e., competitors) and those who dropped out (i.e., dropouts) based on their goal orientation. She found that, students who remained involved in sport were more social approval oriented and less intrinsic- and ability-oriented than dropouts. Whitehead (1992, 1995) attempted to replicate and expand upon Ewing's (1981) findings with a sample of UK children and adolescents. In the first of two studies she found four orientations similar to those identified in Ewing's original work (i.e., ability, task, social approval, and intrinsic). Further, as Ewing found, the goal orientations discriminated between competitors, dropouts, and non-participants, although, the major discriminators were different to those found in Ewing's study. In the second study, Whitehead identified six factors that could be considered as three pairs of orientations. One of these three factors was distinctly social in nature. Specifically, the factor Whitehead termed 'pleasing
others' comprised teamwork and social approval goals that represented co-operating with others and achievement to gain others' approval.

Lewthwaite (Lewthwaite, 1990; Lewthwaite & Piparo, 1993) also examined social motivational orientations in sport. Lewthwaite and Piparo attempted to assess the structure of children's goal orientations via a questionnaire designed to tap seven orientations including social development, social judgement, and affiliation orientations. Examination of a factor analysis revealed a four factor solution comprising two factors associated with physical ability goal orientations (i.e., mastery and competitive achievement) and two factors reflecting social-relational goal orientations (i.e., social acceptance/affiliation and positive social experience). Assessment of the relative importance of each of these orientations revealed that children rated mastery experiences and positive social experiences such as having fun with other athletes and developing good friendships with other athletes most highly followed by social acceptance/affiliation such as being popular with other athletes and spending time with friends and lastly competitive achievement.

This research once again demonstrates that social opportunities are important to children and adolescents in their sport participation. The research of Ewing (1981) and Whitehead (1992; 1995) also indicates that a social approval goal orientation has some predictive power with regard to persistence in sport. Roberts (1984) suggested an explanation for Ewing's finding might be that the sport environment provides many opportunities for social approval oriented individuals to meet their goal (e.g., coaches, parents, peers) irrespective of their level of physical competence. Also even if social approval oriented athletes are not regularly playing in matches their mere presence on the sideline demonstrates loyalty to the team and indicates status. Either of these maybe a sufficient source of satisfaction to encourage them to persist. Despite being a plausible explanation Roberts' explanation of how a social approval goal orientation is related to persistence in sport has never been empirically examined. Also the factors underpinning a social approval orientation that explain why some individuals are more social approval oriented than others and the implications of adopting a social approval orientation for self-worth and motivation remain unexplored. Further, Lewthwaite and Piparo, and Whitehead's research indicates that social approval may not be the only social motivational orientation central to sport motivation. To date, however, there is little agreement as to the number and type of social motivational orientations important to understanding motivation in sport. Further, it remains to be explored, whether different types of social orientations lead to different patterns of thoughts, feelings, and actions in sport, in the way that task and ego, physical ability-related, goal orientations have been associated with different motivational patterns.

In summary, few physical activities occur in isolation, when given the choice few individuals choose to participate alone, whether it on the tennis court against one opponent, in a
physical education class with classmates, in an exercise class with other exercisers, or on the playing field with team mates and an opposing team, interacting with parents, teachers, a coach, or friends, inherent in physical activities are social settings and social interaction. Research has demonstrated that sport participants endorse social reasons for involvement and they are oriented toward the social aspects of sport. Why then has social motivation and social motivational orientations received little attention in psychological research?

**Social motivation: A neglected area**

Central to social motivation is the desire to develop, maintain, and demonstrate social bonds or connections with significant others (Baumeister & Leary, 1995; Juvonen & Wentzel, 1996; Ryan, 1993; Ryan, Deci, & Grolnick, 1995; Weiner, 1990, 1996). In sport whether it is among team mates, between opponents, or with coaches, as with many physical activities, interpersonal interactions are commonplace. They are often desired, and frequently sought out within sport and yet relatively little is known about the implications for motivation, self-worth, and the quality of sport experience (Wylleman, 2000). Social motivation and motivational orientations are not new to motivation research, however, they have received only limited attention in sport psychology research. There are at least two possible explanations for the paucity of research on social motivation and social motivational orientations. First, that social motivation has been largely ignored because of a belief that it does not lend itself readily to experimental manipulation. Second, that researchers have emphasised competence and competence based theories as central to understanding youth sport motivation.

**A brief history of social motivation research**

Social motivation, the desire to develop and maintain social bonds or connections with others, has a long history in theories of human motivation. It has been referred to as the need for affection between people (Murray, 1938), the need for positive regard from others (Rogers, 1951), belongingness (Maslow, 1954, Baumeister & Leary, 1995), affiliation motivation (McClelland, 1987), and the need for relatedness (Deci & Ryan, 1985a, Ryan, 1993). For example, Rogers suggested that in addition to individuals' propensity toward self-actualisation, they develop a need for positive regard from others. Maslow proposed that although lower needs such as food and safety would be satisfied first, individuals' need to belong would need to be satisfied before other higher needs such as esteem (i.e., achievement), or self-actualisation could be met. Further, even in his discussion of competence motivation, White (1959) alluded to a desire to interact effectively with others. His discussion focused on individuals' innate and learned desire to interact effectively with inanimate objects in the environment, however, he suggested that this discussion "applies equally well ....... to transactions with animals and with
other human beings” (p. 327). Each of these theorists believed connectedness with others was a fundamental human need, that it had a certain innate quality which developed further through life experience, and had a central influence on human behaviour.

Although, an acknowledged aspect of motivation, social motivation in general has received less empirical attention compared with other aspects of motivation such as competence motivation. One possible explanation for this lack of attention comes from Bernard Weiner’s (1996) reflection on the history of motivation research. He suggested that individuals’ reactions to experimental manipulations of affiliation motivation have been avoided because the connection with others is so important to participants that the consequences of experimentation are potentially devastating to them. Weiner came to this conclusion after noting that motivation researchers focused on the study of achievement first because it lent itself to experimental manipulations and that an instrument to assess achievement motivation was the first to be developed (i.e., Thematic Apperception Test). In contrast, initial research investigating affiliation, where individuals were placed in socially evaluative situations in an attempt to arouse the affiliative motive, was so devastating to participants that researchers concluded that affiliation motivation did not lend itself to experimental investigation. Weiner suggested that this led researchers to think of achievement and affiliation as very “distinct motivations” and that “their interactions and interplay were not considered” (1996, p. xiv).

Weiner’s interpretation of the events in motivation history paints the study of social aspects of motivation (or lack of) in a somewhat different light. That is, it is not that competence (physical or intellectual) is necessarily the most important motivational concept nor is it that social or affiliative motivation has no contribution to make to understanding human motivation. Rather, social motivation was neglected because competence was examined first and the development and maintenance of social bonds did not appear as straightforward to investigate. However, as Weiner suggests, the motivation to be and feel connected with others may be so important to individuals that it may be at the very core of a general theory of motivation.

**Physical competence: A narrow perspective**

Another possible explanation for the lack of empirical attention to social motivation, particularly social motivational orientations, and one that is more specific to sport psychology research, is related to the emphasis in sport psychology on physical ability, physical competence motivation, and physical ability-related goal orientations. Motivation researchers in sport psychology have been heavily influenced by the theorising of Harter (1978; 1981a) and Maehr and Nicholls (Maehr & Nicholls, 1980; Maehr, 1984; Nicholls, 1984; 1989). That is, Harter's ideas about perceived competence being central to the motivation process, that
individuals are intrinsically motivated to engage in attempts to master their environment and are likely to engage in attempts in domains in which they feel competent, have been adopted by sport researchers. Researchers have reasoned that because sport is a physical domain, perceptions of physical competence are central to understanding and explaining children's and adolescents' motivation in sport (see Roberts, 1984; Weiss & Chaumeton, 1992 for reviews).

Maehr and Nicholls' ideas about achievement goal orientations reflecting the meaning of a situation, the importance of individuals' definition of success, the emphasis on ability and the two ability-related goal orientations (i.e., task and ego) are also prominent in current popular motivation theories utilised in sport research (e.g., Duda, 1993; Duda & Whitehead, 1998; Roberts, 1992a, 2001). In education research, Nicholls conceptualised achievement motivation in terms of "a desire to develop or demonstrate [intellectual] ability - to self or others - and avoid demonstrating low [intellectual] ability" (1984, p. 328). Success was defined in terms of developing or demonstrating ability and formed the basis of two goal orientations. A task goal orientation reflects a concern with developing one's ability. Mastering tasks, learning skills, and self-referenced information are central to feelings of physical competence and success. In contrast, to an individual holding an ego goal orientation the central concern is demonstrating superior ability to others and avoiding demonstrating low ability. For these individuals normative information is salient (Nicholls, 1984, 1989; Dweck & Legget, 1988; Dweck, 1999). Nicholls' view of motivation has been adopted by many sport psychology researchers attempting to understand motivation in the physical domain (see Duda, 1993; Duda & Whitehead, 1998 for reviews). In sport, however, Nicholls' central constructs have been adapted to reflect the physical nature of sport, with perceptions competence becoming perceived physical competence and the two ability-related goal orientations reflecting orientations about physical ability. Specifically, how success is defined with regard to physical ability.

A substantial body of research now exists examining correlates of perceived physical competence and task and ego achievement goal orientations in sport (see Duda & Whitehead, 1998; Weiss & Chaumeton, 1992 for reviews). Although useful, this research is limited to a focus on physical ability and success defined through physical ability. By adopting this narrow perspective researchers are assuming that all participants view sport as an opportunity to develop or demonstrate physical competence and that all participants place some value on physical competence. That is, developing or demonstrating physical ability and avoiding demonstrating low physical ability is the primary concern of individuals, when they are engaged in physical activities (Nicholls, 1984; Roberts, 1992b). This assumption places physical competence, physical competence-related goal orientations, and perceptions of physical competence at the heart of understanding motivation in physical activities. Such an assumption has not allowed for the possibility that sport is both a physical and social context
and that social motivational orientations and social perceptions maybe equally important in understanding motivation and the consequences of sport participation.

It should be noted here that the importance of perceived social environments and social interactions has been recognised by sport researchers. Motivation researchers have begun to examine the influence of situational factors such as the perceived motivational climate on achievement motivation (e.g., Goudas & Biddle, 1994; Kavussanu & Roberts, 1996; Newton & Duda, 1999; Roberts & Treasure, 1995; Walling, Duda, & Chi, 1993; White, 1996, 1998) and the influence of coaches, parents, and peers on competence motivation (e.g., Allen & Howe, 1998; Black & Weiss, 1992; Brustad, 1993a; Duncan, 1993; Horn, 1985; Horn Glenn & Wentzell, 1993; Horn & Harris, 1996; Horn & Hasbrook, 1986; A. Smith, 1999). However, these lines of research maintain a physical ability emphasis. In fact, the motivational climate construct has even been defined as the situationally-specific goal structure and is operationalised as either task-involving or ego-involving (Duda & Whitehead, 1998). That is, both types of climate focus on how physical ability is construed by individuals in a given context. With regard to research on the influence of significant others, again the focus has been on physical competence, specifically how significant others influence perceptions of physical competence and subsequent thoughts, feelings, and actions. Therefore perpetuating the narrow focus on physical competence.

In addition to examining the motivational climate, the impact of social interactions on individuals' sport experience is a topic of interest to many sport psychology researchers (Wylleman, 2000). Researchers have focused relatively independently on characterising and examining correlates of the different relationships that exist such as coach-athlete (e.g., Chelladurai, 1993 Smoll & R. Smith 1989), parent-child (Brustad, 1993a; 1996; Duda & Hom, 1993; Roberts, Treasure & Hall, 1994), and friendships (A. Smith, 1999; Weiss & A. Smith, 1999; Weiss, A. Smith, & Theeboom, 1996). Although this research deals with probable antecedents and consequences of socially motivated behaviour, the association with motivation theory and with constructs such as social motivational orientations and perceived connections with others is rather limited. Children are motivated by a need for social connections and research has all but ignored this potential explanation for why the climate and the relationships formed within sport are a critical determinant of children and adolescents' sport experience.

An emphasis on physical competence and physical ability-related goal orientations to explain the motivational processes active in sporting contexts provides just one piece of the sport motivation picture. Eccles, Wigfield, and Schiefele (1998) argued that approaches to motivation that focus solely on the motivational orientations of increasing or proving the adequacy of one's academic ability are limited suggesting that "categorizing children's goals as ego or task involved oversimplifies the complexity of motivation" (p. 1032). Further, as Maehr argued with respect to behaviour in school, although acquiring and demonstrating academic
competence may be of concern to all individuals some of the time, it is not necessarily the central concern in any given setting or time. He argued that "other goals, other intentions, other attractions, continually intrude." (1984, p. 116). Just as children have different agendas for school, individuals may have concerns other than physical competence in sport.

Individuals' motivation in sport may not always be related to or explained by a desire to demonstrate or develop physical ability. For example, a child may play tennis and feel good when he or she gains approval from a parent, teacher, or coach. Equally, he or she may want to be part of a team for the inherent pleasure or enjoyment of the social interaction and feelings of connection with friends. In fact, research on sport participation motives and sources of enjoyment consistently indicates a view of sport that is broader than simply a focus on physical competence. Specifically, a view that emphasises social motivation such as participating for affiliative reasons and enjoyment gained from social recognition (see Passer, 1982; Weiss & Chaumeton, 1992; Scanlan & Simons, 1992 for reviews). Further, individuals may have relatively stable dispositions or tendencies to focus on the social opportunities of a situation rather than, or in addition to, the physical ones. For example, Ewing (1981) found that competitors (i.e., those who persisted longer) endorsed a social approval goal orientation more than dropouts. It might be argued that individuals desire social approval for physical competence and therefore social motivation can be adequately captured within a competence motivation framework. The important issue with regard to understanding motivation processes, however, is not that individuals are oriented toward gaining approval for physical competence but that they can be social approval oriented. It is the inherent need for social connections that underpins this orientation rather than a need for competence and therefore provides the explanation for the cognitive, affective, and behavioural processes they engage in as they strive to develop and demonstrate social connections.

**Broadening the view**

Deci and Ryan (1985a) suggested that three psychological needs were necessary and could parsimoniously account for human growth and development. These needs were the need for autonomy, competence, and relatedness. The need for autonomy and competence form the basis of self-determination theory. Rather than focusing on competence as Harter, Maehr, and Nicholls have, researchers adopting Deci and Ryan's self-determination theory of human motivation focus on perceived locus of causality, the extent to which individuals feel they are the origin of their behaviour (i.e., self-determined) rather than a 'pawn' of others (i.e., non self-determined), as central to understanding motivation processes and outcomes. Cognitive evaluation theory, a mini theory of the self-determination approach, has received considerable research attention in sport (see Frederick & Ryan, 1995; Vallerand, Deci, & Ryan, 1987;
Vallerand & Losier, 1999 for reviews). This approach provides a view of motivation where competence is not the only psychological need underpinning motivational processes. However, even the self-determination approach focuses on only intrapsychological needs, competence and autonomy, and ignores the social side of human behaviour, the need for relatedness. Specifically, it ignores the contribution of interpersonal motivation to understanding motivation.

Healthy development is characterised by intrapersonal and interpersonal growth and integration (Ryan, et al, 1995). That is, organising one's social life is important as well as developing competencies. The need for relatedness energises these interpersonal explorations and interactions (Ryan, et al, 1995; Baumeister & Leary, 1995). Although included in Vallerand's (1997) extension of self-determination theory, to date, the only known study including relatedness in an investigation of motivation in sport is an unpublished study of basketball players by Blanchard and Vallerand (1996 reported in Vallerand, 1997 and Vallerand & Losier, 1999). Using cognitive evaluation theory as a guiding framework they examined the relationships among perceptions of competence, autonomy, relatedness, intrinsic and extrinsic motivation, perceptions of coach's interaction style, and team cohesion. A path analysis revealed that the more the coach was perceived as autonomy-supportive by his or her players and the more cohesive they perceived the team, the more competent, autonomous, and related to the team players they felt. Further, the paths from perceived autonomy and perceived relatedness to self-determined motivation were significant supporting the mediating effect of perceptions on the relationship between contextual factors and intrinsic motivation. Interestingly, the path between perceived competence and self-determined motivation was not significant. This research and theorising demonstrates room for further exploration of the role of the need for relatedness in understanding sport motivation.

Deci and Ryan and colleagues are not the only researchers to identify the importance of a social aspect to motivation. Several researchers in educational and social psychology (e.g., Baumeister & Leary, 1995; Blumenfeld, 1992; Eccles, et al, 1998; Goodenow, 1992; Juvonen, 1996; Kasser & Ryan, 1996; Maehr, 1984; Ryan, et al, 1995; Urdan & Maehr, 1995; Weiner, 1990; Wentzel, 1999) have presented compelling arguments for the exploration of a social aspect to motivation. The approaches these researchers have adopted to examine social motivation are varied but focus on two central constructs – social goal constructs and perceived belonging. Social motivational goal constructs, in addition to those reported in the limited research on this topic in sport, have been identified and related to quality of school functioning (e.g., Anderman & Anderman, 1999; Dweck, 1996; Goetz & Dweck, 1980; Patrick, Hicks, & A. Ryan, 1997; A. Ryan, Hicks, & Midgley, 1997; Urdan & Maehr, 1995; Wentzel, 1993, 1996, 1999). Further, in addition to the need for competence and perceptions of academic competence, perceived school belonging and perceived interpersonal relatedness have been
associated with cognitions, affect, and behaviours in the classroom (e.g., Anderman, 1999; Goodenow, 1993a, 1993b; Roeser, Midgley, & Urdan, 1996; A. Ryan, et al, 1997; Ryan, 1993; Ryan, Stiller, & Lynch, 1994). Despite recognition of the salience to participants of social aspects of sport, to date, few researchers in sport psychology have demonstrated an interest similar to researchers in education for expanding motivational theories to incorporate social motivational constructs.

**Purposes**

A wide variety of research indicates the social aspect of sport is salient to individuals' motivation in sport (Blanchard & Vallerand, 1996; Ewing, 1981; Klint & Weiss, 1987; Lewthwaite & Papiro, 1993; Passer, 1982; Scanlan & Simons, 1992). Current motivational approaches, however, lack incorporation of social motivation. Competence and achievement motivation theories (Harter, 1981a; Nicholls, 1984, 1989), popular with many sport psychology researchers (see Duda, 1993; Roberts, 1992a; Weiss & Chaumeton, 1992 for reviews), maintain a focus on the need for physical competence, physical competence-related goal orientations, and perceptions of physical competence as the central constructs for understanding individuals’ thoughts, feelings, and actions in sport. Even the incorporation of the need for autonomy and competence within self-determination theory and cognitive evaluation theory maintains a focus on the physical aspects of sport operationalising competence and self-determination in physical terms (e.g., Pelletier, et al, 1995).

Social motivation is not a new motivation but rather one that has been neglected by most motivation researchers. Perhaps because in the past it has not lent itself to experimental manipulation and easy measurement. Perhaps because of a narrow focus on intellectual and physical competence. Whatever the reason, researchers have failed to fully explore the contribution to motivation made by motivational orientations and perceptions that are predominantly social in nature. Therefore, to more fully understand motivation in the physical domain a broader view of motivation is needed. One that incorporates the strengths of traditional social cognitive perspectives but also addresses the limitations of a focus solely on physical competence.

Unlike the coherent body of research on motivation underpinned by intrapersonal needs such as physical competence and self-determination, research in sport on social motivation underpinned by the interpersonal need for relatedness is almost non-existent. Consequently, the relative importance of social motivational constructs for explaining motivation in sport and the psychosocial consequences of participation is not well understood. Researchers in educational and social psychology that have examined social goal constructs have operationalised these constructs in a variety of ways. They range from discrete social goals to
broad life aspirations to motivational orientation-like constructs. This body of literature, although adding to a limited body of knowledge regarding social motivation, lacks clear conceptualisation of central constructs and discussion of the theoretical base is somewhat limited.

Therefore, the purposes of this research are to: (1) develop a theoretical framework to examine social motivation in youth sport and the psychosocial consequences of participation; (2) propose a conceptually consistent working definition for social motivational constructs for sport and develop measures of these constructs for youth sport; (3) begin to examine the relationship between the psychological processes that comprise social motivation and the psychosocial consequences of social motivation in youth sport.

In Chapter 2, a review and critique of current perspectives on motivation in youth sport is provided and implications drawn from this research and theory for the development of a theoretically based model of social motivation in youth sport. In Chapter 3, a model of social motivation for youth sport is proposed. This is achieved by integrating the information from Chapter 2 with research drawn from educational and social psychology that has examined social motivational constructs. In Chapter 4, the methods employed in the research, including issues related to measurement development and the use of structural equation modelling data analysis are outlined. In Chapter 5, the results of the measurement development phase of the research are presented and in Chapter 6, the results of empirical evaluation of the proposed social model of motivation are presented. Finally, in Chapter 7, the findings of this investigation relating them to the reviewed literature and hypotheses formulated in Chapters 2 and 3 are discussed. In addition, in this chapter I identify and discuss the conceptual implications of this investigation for research in the area of social motivation in youth sport as well as discussing the practical implications of this research.
CHAPTER TWO: CURRENT PERSPECTIVES ON MOTIVATION IN YOUTH SPORT

In Chapter 1, I provided an introduction to this research. It was suggested that social aspects of sport are salient to participants but that researchers have given only limited attention to this aspect of motivation. Rather researchers have focused on physical ability as the salient feature of motivation in the physical domain. In this chapter, I review and critique the most popular approaches to understanding motivation in youth sport. I begin with research examining participation and attrition motivation in which further evidence of the salience of social aspects of sport to participants is provided. I then focus on examining the three most prominent theoretical approaches to motivation currently employed by youth sport researchers. Review of these perspectives and the related research in youth sport is important for three main reasons. First, it provides further evidence of the emphasis researchers have placed on physical competence and related constructs as central for understanding motivation in sport. Second, a review and critique of researchers' attempts to incorporate aspects of social motivation into their examination of motivation in youth sport provides an indication of the status of knowledge concerning social motivation in youth sport. This review emphasises that there has been a lack of systematic theoretically based research on social motivation in youth sport. Third, the theoretical perspectives reviewed have common elements which provide direction for the development of a social perspective on motivation. Specifically, each of the perspectives and related research reviewed here describe predispositions to view and interpret events in a particular way which influence individuals' quality of motivation. One disposition or motivational orientation reflects a focus on personal development and tends to lead to, or at least be associated with, more positive and adaptive functioning in sport. In contrast, a second orientation reflects a concern with self validation, often through the demonstration of superior normative ability, and tends to lead to less positive, more motivationally maladaptive functioning in sport. Another common element of these theoretical perspectives is the central role played by self-perceptions, most often perceived physical competence, in motivation processes. Research generally supports that higher self-perceptions lead to more positive outcomes in sport compared with lower self-perceptions. Although motivation researchers in sport have focused on physical competence related self-perceptions and orientations, similar constructs with a social emphasis are likely to prove useful in explaining individual differences in quality of social motivation and predicting consequences of social motivation processes in youth sport. Before such a review, however, it is important to discuss and delineate what motivation is.
Motivation is often inferred from behaviour, such as the choices individuals make regarding what to do (e.g., which sport to participate in), the persistence with which these choices are pursued, the extent to which previous tasks are returned to after a break, and the intensity of effort or engagement in the task (Eccles, et al, 1998; Maehr, 1984). Such behaviour patterns can be described and motivation inferred, however, a more complete understanding of motivation requires examination and understanding of the psychological processes that underpin and lead to these behaviours. Eccles and colleagues (1998) described motivation with respect to its Latin root meaning 'to move', suggesting that "motivational psychologists study what moves people to act and why people think and do what they do" (p. 1017). Ford (1992) defined motivation as "the organized patterning of three psychological functions that serve to direct, energize, and regulate goal-directed activity, personal goals, emotional arousal processes, and personal agency beliefs." (p. 3). Motivation viewed in these ways is a process or number of processes that selectively direct, energise, and regulate cognitions, affect, and behaviours (Roberts, 2001).

The focus of the research presented in this thesis is the youth sport experience and specifically a social motivational approach to understanding the psychological processes that shape children's and adolescents' experiences in sport. The general questions driving this research include: what is it about children and adolescents' sport experience that keeps them coming back for more? What induces positive or negative affect in sport participants? What are the psychosocial consequences of participating? How are self-perceptions, psychological well-being, growth, and development affected by sport involvement? More specifically the focus is on an examination of the contribution social aspects of motivation have in furthering our understanding of the motivational processes in youth sport. Specific questions central to this research are: what role do social needs, social orientations, and social perceptions play in the motivational processes in sport? What do social aspects of motivation contribute to the understanding of the social-psychological processes that underpin individuals' thoughts, feelings, and patterns of behaviour in sport such as their attributions about performance, beliefs about the purposes of sport, attitudes toward sport, their sense of interest, enjoyment, satisfaction, pride, anxiety, embarrassment, and their persistence, commitment, and continued involvement?

In efforts to address similar questions, motivation research in sport has often been divided into two broad categories, research directed towards understanding participation motivation, including attrition motivation research, and research examining motivational characteristics and consequences of those involved in sport (e.g., orientations, cognitions, affect, and behaviours). This separation is reflected in the organisation of the review of literature presented here. The review of youth sport motivation literature begins with a discussion of the descriptive research examining participation and attrition motives. Next
theoretical perspectives on motivation prominent in current sport psychology research are discussed with respect to the explanation of processes underlying the range of outcomes researchers have examined in youth sport contexts. This organisation is not so much a separation of participation motivation from other aspects of motivation but rather a separation between largely atheoretical, descriptive research and theory based examinations of motivation in sport contexts. However, both descriptive and theory based research provide valuable insight into the youth sport experience and both inform the research presented in this thesis.

**Participation and Attrition Motives**

Motivation researchers ask the question ‘why’. Why do people do and think what they do? Many sport psychology researchers interested in the youth sport experience have started out with the question: why do children and adolescents participate and withdraw from organised sport? In fact, in the early 1980’s, this question was identified by researchers and practitioners as an important youth sport issue of practical significance that sport psychologists should address (Gould, 1982). With regard to research examining motives for participating in sport, consistent results have emerged. Passer (1982) summarised the motives children gave for their sport participation, suggesting that six categories of motives existed. These general categories were: (1) skill development - to improve skills, learn new skills; (2) excitement - to experience action, challenge; (3) fitness - to get exercise, stay in shape; (4) energy release - to get rid of tension; (5) success and status - to win, feel important, gain recognition, obtain rewards; (6) affiliation - which could be further divided into a team aspect - to be on a team, experience team spirit, and a friendship aspect - to be with friends, to make new friends. With only slight variations these six general categories have been supported by subsequent research (see Table 1). Where researchers have identified more than six categories it has generally been from splitting one or more of these categories. For example, Gill, and colleagues (1983), as have other researchers (e.g., Gould, Feltz, & Weiss, 1985; Buoanmano, Cej, & Mussino, 1995), found that team and friendship categories factored separately. Further, despite researchers attempts to identify differences between groups based on categorical variables such as gender, age, sport type, and culture, relatively few consistent differences have been established (Brustad, 1993b).

With regard to research examining the reasons youth sport participants withdraw from sport there has been less consensus (see Table 2). As with participation motives, however, individuals’ report multiple motives for discontinuing involvement in sport. The commonly reported motives for sport withdrawal include conflicts of interest, lack of playing time, lack of success or skill improvement, competitive stress, lack of fun, dislike of the coach, lack of social support, and injury (see Table 2, and Gould & Horn, 1984; Gould & Petlichkoff, 1988; Brustad,
<table>
<thead>
<tr>
<th>Citation</th>
<th>Sample</th>
<th>Age</th>
<th>N</th>
<th>Participation Motives</th>
<th>Main Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gill, et al (1983)</td>
<td>US summer sports school</td>
<td>8-18</td>
<td>1138</td>
<td>achievement/status, team, fitness, fun energy release, others, skill, friends</td>
<td>gender - boys - higher achievement/status; girls - higher friendship, fitness</td>
</tr>
<tr>
<td>Gould, et al (1985)</td>
<td>US competitive swimmers</td>
<td>8-19</td>
<td>365</td>
<td>achievement/status, team atmosphere, excitement/challenge, fitness, energy release, skill development, friendship</td>
<td>gender - girls - higher fitness, friendship; age - younger (8-11yr) - higher achievement/status; ability - not significant</td>
</tr>
<tr>
<td>Klint &amp; Weiss (1986)</td>
<td>US gymnasts competitive recreational leaver</td>
<td>7-25</td>
<td>106</td>
<td>aspects of competition, action, fitness, team atmosphere, situational, social recognition, challenge</td>
<td>participant status; competitive cf. leavers - higher competition, fitness, improve skills, leavers cf. recreational - higher competition, action, lower situational, fitness; competitive cf. recreational - higher competition</td>
</tr>
<tr>
<td>Longhurst &amp; Spink (1987)</td>
<td>Australian sport clubs</td>
<td>8-18</td>
<td>404</td>
<td>team/achievement, situational, status, fitness</td>
<td>gender - not significant; age - younger children higher extrinsic (8-11yr) &amp; social reasons (8-1yr) cf. older children</td>
</tr>
<tr>
<td>Brodkin &amp; Weiss (1990)</td>
<td>US competitive swimming</td>
<td>6-74</td>
<td>100</td>
<td>competitive swimming, health/fitness, social status, affiliation, energy release, significant others, fun</td>
<td>age - characteristics of swimming - lower for high school/college cf. children; social status - higher for high school/college cf. older children; significant others - higher for younger children cf. high school/college; fun - higher for younger children</td>
</tr>
<tr>
<td>Wang, et al (1996)</td>
<td>Chinese sport school and normal school</td>
<td>7-17</td>
<td>465</td>
<td>competence/competition, fun/excitement, team orientation, fitness, energy release, social activity, friendship, future career pursuits, family influence, achievement/rewards</td>
<td>gender - boys higher fitness, energy release, friendship; girls - higher team orientation school - sport school - higher competition, energy release, family influence, achievement/rewards; regular school - higher team orientation, social activity</td>
</tr>
<tr>
<td>Daley &amp; O'Gara (1998)</td>
<td>UK extracurricular sport</td>
<td>11-12</td>
<td>66</td>
<td>energy release, fitness, team affiliation, friendship, fun, achievement/status, skill acquisition, miscellaneous</td>
<td>gender girls - higher energy release, achievement/status, skill acquisition, team affiliation, miscellaneous; age - older - higher skill acquisition, team affiliation, achievement/ status, miscellaneous</td>
</tr>
<tr>
<td>Reeves, et al (1998)</td>
<td>UK school sport</td>
<td>14-18</td>
<td>129</td>
<td>team/affiliation, popularity/energy release, challenge/fun, skills, achievement, recognition/excitement, miscellaneous</td>
<td>fun - most important reason for participation skill improvement - second</td>
</tr>
<tr>
<td>Kolt, et al (1999)</td>
<td>Australia, Canada, China, India, Israel gymnastics</td>
<td>youth</td>
<td>701</td>
<td>team/affiliation, popularity/energy release, challenge/fun, skills, achievement, recognition/excitement, miscellaneous</td>
<td>groups - significant all factors, also a number of similarities</td>
</tr>
</tbody>
</table>

**Note.** Criteria for inclusion: Children and/or adolescent sport participants, described reasons for participation, group differences, and research article published in English since Passer (1982).
<table>
<thead>
<tr>
<th>Citation</th>
<th>Sample</th>
<th>Age</th>
<th>N</th>
<th>Withdrawal Reasons</th>
<th>Main Findings</th>
<th>Group Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooley (1981)</td>
<td>Former US youth soccer</td>
<td>10-15</td>
<td>50</td>
<td>conflict of interest, over emphasis on competition, poor communication</td>
<td>age younger (10-12yr) rated over emphasis on competition more important cf. older (13-15yr)</td>
<td></td>
</tr>
<tr>
<td>Sefton &amp; Fry (1982)</td>
<td>Current &amp; former Canada swimming</td>
<td>6-22</td>
<td>158</td>
<td>too much time, desire to participate in other activities, dissatisfaction with practices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gould, et al (1982)</td>
<td>Former US club swimming</td>
<td>10-18</td>
<td>50</td>
<td>other things to do, not as good as I want to be, not enough fun, want to play another sport, did not like the pressure</td>
<td>gender females higher - did not like pressure age older (15-18yr) - no teamwork, not enough challenge, parents/friends did not want me to; younger (10-14yr) - other things to do</td>
<td></td>
</tr>
<tr>
<td>Robertson (1982)</td>
<td>Australia school children</td>
<td>12</td>
<td>758</td>
<td>programme emphasis (e.g., no fun, never played, not good enough), general life conflicts (e.g., no free time, social life, got a job), other sport conflicts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown (1985)</td>
<td>Current &amp; former Canada club swimmers</td>
<td>404</td>
<td>more time with friends, lack of success, swimming no longer important, participate in other activities, choose between alternatives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burton &amp; Martens (1986)</td>
<td>US club wrestlers participants &amp; dropouts</td>
<td>7-17</td>
<td>109</td>
<td>other things to do, not fun, not motivated anymore, don't care anymore, too much time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Klint &amp; Weiss (1986)</td>
<td>Former US competitive gymnasts</td>
<td>10-25</td>
<td>37</td>
<td>other things to do, did not like the pressure, no fun, took too much time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Johns, et al (1990)</td>
<td>Former Canadian club gymnasts</td>
<td>76</td>
<td>time demands, injury, lost interest, pressure, other options</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Criteria for inclusion: Children and/or adolescent sport participants or former participants, described reasons for withdrawal from sport, group differences, and research article published in English since 1980.
Conflicts of interest or interest in other activities is the most frequently reported reason for attrition. Other more negative reasons such as competitive stress, lack of social support, and dislike of coach are salient to a smaller number of former participants (Gould, 1987). It is unclear whether the high frequency of conflict of interest motives is a result of dissatisfaction with the sport experience or that attraction to other activities is part of a normal process of sampling different activities during adolescence (Brustad, 1993b; Weiss & Petlichkoff, 1989). Whatever the explanation, it has been suggested that these motives are only surface motives and the theoretical motives or motivational orientations that underlie and effect these surface level motives are yet to be fully researched (Gould & Petlichkoff, 1988). Gaining such insight requires an understanding of the underlying psychological processes that lead individuals to participate and to withdraw from sport.

From examination of the research on participation and attrition motives it is clear that individuals have a wide variety and often multiple reasons for their involvement in and disengagement from sport. More importantly for the research presented in this thesis, participation and attrition research provides evidence supporting the salience of social motives for participating and withdrawing from sport. Affiliation motives such as wanting to make new friends, be with friends, experience team spirit, and be on a team are frequently reported as important reasons for participating in sport. Success and social status motives such as wanting to gain recognition and feel important are also common participation motives. With regard to withdrawal from sport reasons such as a lower sense of belonging, feeling relatively excluded from the team, less encouragement or support from others for participation, parents or friends not wanting me to participate, not meeting new friends, no teamwork, and a desire to spend more time with friends are all reasons individuals have cited for discontinuing their involvement in sport. Clearly, social aspects of motivation are salient to the participation and attrition processes.

The decisions to participate and to withdraw from sport are only part of the youth sport experience, in fact they are just two behaviours, two choices of many from which motivation in sport contexts is inferred. Motivation is also inferred from behaviours such as the choices individuals make (e.g., task selection), the intensity and persistence with which they pursue these choices, the degree to which they return to activities without external constraint, and even the level of performance exhibited (Maehr, 1984). Therefore an understanding of motivation in youth sport should include examination of motivational characteristics during sport involvement which may have other consequences such as positive or negative affect or effort exertion. Understanding the psychological processes that underpin children's and adolescents' thoughts, feelings, and actions in sport provides researchers with a deeper understanding of the youth sport experience. In the next section the three most prominent theoretical approaches to motivation in sport are reviewed and critiqued.
Theoretical Approaches to Motivation

Three of the most prominent motivational approaches employed in sport psychology research are competence motivation theory (Harter, 1978; 1981a), achievement goal perspectives (Dweck, 1999; Dweck & Leggett, 1988; Maehr & Nicholls, 1980; Nicholls, 1984, 1989), and self-determination theory (Deci & Ryan, 1985a; Vallerand, 1997). Each of these approaches provides somewhat different explanations of the psychological processes that underpin motivation and the constructs viewed as central to understanding these processes. In this way each approach has a unique contribution to understanding motivation in sporting contexts. Despite disparities, however, there are also similarities among these approaches and it is these similarities that suggest avenues for developing a theoretically based model of social motivation and integrating this perspective with existing motivation perspectives. In this section, each theoretical approach to motivation is presented and related research in sport is discussed. To develop a picture of the current status of social motivation research, attention is given to researchers' efforts to examine aspects of social motivation in youth sport with each theoretical approach. Further, common elements central to understanding the psychological processes underpinning children's and adolescents' motivation in youth sport settings are identified and these provide a useful starting point for the proposal of a theoretically based model of social motivation for youth sport.

Competence motivation theory

One theory of motivation popular with many sport psychologists interested in children's and adolescents' experiences in sport is Harter's (1978, 1981a) competence motivation theory (see Weiss &Chaumeton, 1992 for a review). Harter's theory is a reformulation of White's (1959) effectance motivation model, in which Harter operationalised the constructs central to White's model, developed measurement tools to capture these constructs, and elaborated on several areas of the model including the consequences of failure and the influence of significant others in the mastery motivation process. Central to both White's original formulation and Harter's theory is individuals' inherent need to deal effectively with their physical and social environment and that they do so by engaging in mastery attempts. A successful attempt (i.e., a competent performance) leads to feelings of efficacy, personal control, and positive affect, which in turn increase motivation to engage in future mastery attempts, exert more effort, and persist longer. Harter also proposed that this pattern would lead to positive self-regard or self-worth, the sense that one believes one is an 'okay' person. In contrast, an unsuccessful mastery attempt will lead to feelings of a lack of efficacy, external control, and negative affect, including anxiety in future mastery situations. These in turn leads
to decreased competence motivation and negative self-regard (see Figure 1 for a schematic diagram of the central constructs and relationships in Harter's theory).

Researchers employing Harter's (1978) competence motivation theory to explain motivation processes in youth sport contexts have generally found evidence to support the central tenets of the theory (see Brustad, 1993b; Weiss & Chaumeton, 1992; Weiss & Ebbeck, 1996 for reviews). The findings of this research have included evidence that greater perceived physical competence compared with lower perceptions is associated with more positive affect, greater preference for challenge, lower perceived parental pressure, higher perceived success, higher expectations for future success, and attributing success to stable factors (Brustad, 1988; Brustad & Weiss, 1987; Ebbeck & Weiss, 1992; Weiss & Horn, 1990; Weiss, McAuley, Ebbeck, & Weise, 1990). Researchers have also found that greater perceived physical competence is associated with participation in sport (Feltz & Petlichkoff, 1983; Roberts, Kleiber, & Duda, 1981; Weiss & Frazer, 1995) and with competence-related motives for participation such as skill development (Klint & Weiss, 1987). This research has primarily focused on relationships with perceived physical competence, however, Harter also described the importance of the social domain in motivation and self-worth.

Harter proposed that perceptions of competence in each achievement domain (e.g., academic, social, physical) contributed to individuals' motivation in these domains and their sense of self-worth. To date, the role that social competence plays in motivation and self-worth processes in sport has been largely ignored. Exceptions, however, do exist. For example, Roberts and colleagues (1981) assessed the perceived social competence of sport participants and non-participants and found no significant difference between the two groups. Both participants and non-participants, however, reported moderate levels of perceived social competence. Klint and Weiss (1987) found that individuals higher in perceived social competence attached greater significance to social motives for participation such as friends and team atmosphere. This research provides partial support for Harter's contention that if individuals feel competent in a particular domain they are more likely to engage in activities in that domain or at least view the activities as opportunities to demonstrate this competence. It also demonstrates that participants attach social as well as physical meaning to their sport participation.

According to Harter significant others also play an important role in the development of children's world views toward activities. She proposed that the reactions of significant others to children's mastery attempts would influence perceptions of competence, control, and affect and over time would lead to the development of either intrinsically or extrinsically motivationally oriented individuals. Reactions that reinforced and demonstrated approval for independent mastery attempts, and disapproval for dependence on adults for help in these attempts were hypothesised to lead to positive motivational characteristics such as high
Figure 1. Schematic diagram of Harter's (1978) competence motivation theory.
perceived competence, perception of internal control (i.e., the belief that one is responsible for outcomes), positive affect, increased competence motivation, and high self-worth. In contrast, reactions from significant others that did not reinforce or demonstrate approval for independent mastery attempts, but rather demonstrated disapproval for independence and approval for dependence on others were expected to lead to a more motivationally maladaptive pattern which included perceptions of incompetence, perceived external control (i.e., not knowing or believing that others are responsible for outcomes), negative affect, decreased competence motivation, and lower self-worth. Further, Harter proposed that this influence diminished over the course of development as children internalised external patterns of reinforcement in two critical systems: a self-reward or self-punishment system; and a set goals for behaviour.

Harter (1978) argued that the development of these two systems forms the basis of children's motivational orientation, the extent to which they were relatively intrinsically versus extrinsically motivated. Engaging in mastery attempts for the pleasure of feeling competent versus feeling one ought to engage in certain behaviours primarily to please others. The following excerpt illustrates Harter's views on the nature of intrinsic motivation, the processes leading to the development of the intrinsically motivated individual, and the view that an intrinsic motivational orientation was in part innate and in part the product of positive mastery experiences, success, and positive feedback and reinforcement from significant others:

[There are] at least two sources of intrinsic motivation and related pleasure. One source is very similar to White's view that a very basic and biologically useful process exists in the organism from birth, namely the motivation to interact competently with the environment and to experience the resulting feelings of efficacy. 'Intrinsic' in its purer form, then, implies that this capacity, this motivational system, is biologically built into the organism. Its source is not experiential. The second source of intrinsic motivation does have experiential roots to the extent that (a) the particular mastery goals which the child internalizes are determined in large part by the values of his [sic] socializing agents, and (b) that the nature and strength of the self-reward system the child develops are a function of the amount and type of social reinforcement he [sic] receives. This second source is also intrinsic in the sense that it has become 'internalised' and is therefore 'inside' the organism. Through the course of development it has become increasingly independent of external or extrinsic sources of motivation and reward. (Harter, 1978, p. 52)

Harter believed that such a developmental course would ultimately produce an internally or intrinsically motivated individual, that the "net result is a child for whom intrinsic motivation becomes a major determinant of his or her behaviour" (Harter, 1978, p. 52). She did not, however, believe that the intrinsically-motivated individual had no need or desire for approval or feedback. That is, rather than proposing that intrinsically oriented individuals were capable of existing totally independent of external reinforcement, she suggested that "the intrinsically-motivated individual can be viewed as someone who is capable of operating on a relatively thin schedule of reinforcement, where that reinforcement may occasionally be
necessary to confirm one's standards for success as well as one's perceived competence" (1978, p. 52).

With regard to negative outcomes of mastery attempts Harter also proposed that if outcomes such as failure and negative reactions of significant others were typical or occurred with sufficient frequency early in children's development their intrinsic motivation will eventually be attenuated and ultimately produce extrinsically-oriented individuals. "The predicted outcome of such a socialization history during the early years is precisely the opposite of that described ...... of an intrinsically motivated individual...... For those children experiencing the cluster of negative consequences..... it is predicted that during middle childhood they will increasingly display a need for external approval as well as a dependence on externally-defined goals for behaviour" (Harter, 1978, p. 53). Therefore by middle childhood Harter suggested that children would have developed a motivational orientation based on two internalised systems which identified valued behaviours (i.e., sets of goals) and how successes and failures should be interpreted and responded to (i.e., self-reward or self-punishment). These orientations would influence future mastery attempts children made. As will be seen later in this chapter, the concept of motivational orientations is a common element among current perspectives on motivation. The concept of a relatively stable individual difference factor that provides a framework through which events are interpreted and responded to provides researchers with an explanation of part of the psychological processes that influence cognitions, affect, and behaviour and explains differences in individuals' quality of motivation. That is, why two highly motivated individuals may think, feel, and act very differently in the same situation.

Researchers in the physical domain have attempted to assess Harter's concept of motivational orientations and their consequences. Weiss, Bredemeier, and Shewchuk (1985) developed a scale of intrinsic/extrinsic motivation for use with youth sport participants that paralleled Harter's (1981b) scale developed for the classroom. Weiss and colleagues suggested that "the motivational dimensions defined by Harter are congruent with what appears to be available in sport: challenge, curiosity, mastery, judgement, and criteria" (p. 78) and so adopted Harter's intrinsic/extrinsic motivation scale, adapting the items to reflect the sport setting. In a group of third through sixth grade children attending a summer sports camp, they found some support for Harter's five dimensions of intrinsic motivation orientation, however the fit indices of the confirmatory factor analysis conducted were below the .90 level typically considered indicative of an adequately fitting model (Hu & Bentler, 1995). A subsequent exploratory factor analysis revealed only slight variation in the factor structure, most notably the curiosity factor split into interest and skill improvement factors. The reliabilities of these six factors were all above .60 but only two were above the preferred .70 level (Nunnally, 1978).
At least four other studies have employed the intrinsic/extrinsic motivational orientation scale in youth sport investigations (Biddle & Brooke, 1992; Brustad, 1988; Weiss, Bredemeier, & Shewchuk, 1986; Weiss & Horn, 1990). In two of these only the challenge, interest, and independence sub-scales were used to distinguish between intrinsic and extrinsic orientations (i.e., Weiss, et al, 1986; Weiss & Horn, 1990) and in the third study (Brustad, 1988) only the challenge sub-scale was used. The findings from this research generally support Harter's proposed relationships in sport settings, however, it is important to note that the operationalisation of the intrinsic/extrinsic orientation was restricted to physical, or in Harter's case academic, competence. Whether similar orientations with regard to social relations can be identified and are meaningful in sporting contexts remains to be determined. For example, can a child be intrinsically and/or extrinsically oriented with regard to social relations or friendships? Do intrinsic and extrinsic social orientations lead to, and therefore provide explanation for, different patterns of thoughts, feelings, and actions in sport? The inclusion of the need for approval or approval seeking behaviour in the extrinsic orientation aspect of the scale suggests children are oriented toward relationship issues. Dimensions of an intrinsic orientation toward social relations may include a preference for co-operative work, sharing ideas, helping others rather than direct competition and individual gain. Another intrinsic aspect may be interest and curiosity in meeting and getting to know others rather than pleasing them or wanting to be held in high regard in the wider social group. Such an orientation may include acceptance of others for who they are rather than judging them on certain, perhaps competence-based, criteria.

Critique

Competence motivation theory has proved useful in delineating features of the motivation process active in youth sport. As with other current perspectives on motivation in youth sport, self-perceptions are given a central role in explaining the psychological processes underlying children's and adolescents' motivation in sport. The concept of motivational orientations is also useful in providing an explanation for qualitatively different patterns of cognitions, affect, and behaviour. Further, the developmental focus of the theory provides valuable insight into and explanation for the changes in structure and content of motivation that occur with development as well as the processes through which ontogenetic change occurs. Several youth sport researchers have identified the importance of adopting a developmental approach to understanding youth sport experiences (e.g., Duda, 1987; Gould, 1982; Weiss & Bredemeier, 1983). For example, Gould reminded researchers that "the young athlete is not a miniature adult" and that "too often we erroneously assume that psychological processes and theories that have been based on research with adults automatically transfer to younger age groups" (p. 12). The explanation Harter proposed for the development of intrinsic versus
extrinsic motivational orientations is a good example of the application of a developmental approach to understanding motivation. In addition, Harter identified at least three achievement domains in which individuals are motivated to demonstrate competence - cognitive, physical, and social. By adopting a view of multiple domains of experience Harter has allowed for and acknowledged the importance of the social domain of experience for understanding human behaviour. Relatively few researchers, however, have examined tenets of Harter's theory as they apply to social competence and the social domain. Instead education researchers have focused on cognitive or academic competence and sport researchers have focused on physical competence as central to understanding motivation in school and sport, respectively. As has already been argued sport is a social as well as a physical domain and therefore self-perceptions related to social aspects of sport are likely to play a central role in children's and adolescents' sport motivation.

Despite contributing to researchers' understanding of aspects of motivation in youth sport, Harter's theory, at least its application in sport, is not without limitations. First, perceived competence is the central construct in Harter's theory and in sport researchers have emphasised the role of perceived physical competence in sport motivation. Harter adopts a unidimensional view of competence in each domain and researchers adopting her theory and measurement tools for research in sport have also adopted this unidimensional view of physical competence. Several researchers in sport, however, have argued that a multidimensional view of physical ability is more appropriate (e.g., Fox, 1997; Roberts & Treasure, 1995). Second, the emphasis on physical competence in sport research ignores the social opportunities sport provides and an understanding of how social aspects of motivation influence the psychological processes that shape children's and adolescents' experiences in sport. A small number of researchers in sport has examined correlates of social competence using Harter's theory as a guiding framework. For example, Klint and Weiss (1987) found that gymnasts higher in perceived social competence, which was operationalised as having friends, being liked, and popular, rated friends and team atmosphere as more important reasons for participating in gymnastics compared with gymnasts holding lower perceptions of social competence. In addition, these motives were different to those considered important by gymnasts high in perceived physical competence. Further, Weiss, and colleagues (1990) found similar patterns of relationships between perceived competence, perceptions of success, attributions for success, and locus of control measures focused on physical and social aspects of the sport experience. These few studies provide preliminary evidence to suggest that self-perceptions related to social aspects of sport are important to understanding the motivation process, however, they also emphasise that compared with the body of literature amassed testing tenets of Harter's theory with regard to physical aspects of motivation, the social aspects of motivation and implications for the youth sport experience remain relatively unexplored.
Third, the central questioning driving Harter's development of the intrinsic/extrinsic motivational orientation scale was: "To what degree is a child's motivation for classroom learning determined by her or his intrinsic interest in learning and mastery, curiosity, and preference for challenge, in contrast to a more extrinsic orientation in which the child is motivated to obtain teacher approval and/or grades and is dependent on the teacher for guidance?" (Harter, 1981b, p. 301). The dimensions included in the scale reflect Harter's focus on academic competence. In sport, researchers adopting Harter's scale (e.g., Weiss, et al, 1985) also adopted her view of the important dimensions of intrinsic and extrinsic orientations and simply changed the focus of the items to reflect physical competence. Such an approach ignores White's (1959) acknowledgement of the importance of dealing effectively with the social as well as the physical environment. It ignores that individuals may be intrinsically motivated toward social aspects of sport (or school) and that individuals can gain intrinsic pleasure from successfully developing and maintaining friendships and relationships. Equally individuals may be relatively extrinsically oriented with regard to social relations. These individuals are likely to be less interested in the relationship per se, the process of developing that relationship, or learning social skills, but rather focus on what the relationship provides such as social status, recognition, or approval. These individuals are likely to only feel successful, efficacious, and good about themselves when they are held in high regard by others whom they consider to be important. They may also adopt or rely on goals set by others and perceive a lack of control over outcomes. If these individuals begin to doubt their social status and feel bad about themselves then their sport experience is likely to suffer. They may become more preoccupied with the evaluations of others which could lead to greater worry and anxiety, dissatisfaction, and attempting to look good in front of others rather than focusing on personal development. However, at this point little is known about the correlates or implications for motivation and self-worth of relatively intrinsic versus extrinsic social motivational orientation in any arena, let alone sport.

Fourth, Harter's concept of competence as the driving force behind motivation may not be the most appropriate framework in which to capture the unique contribution of social motivation. The need for belonging or relatedness has been identified as a fundamental psychological need that underpins social interaction (Baumeister & Leary, 1995; Ryan, et al, 1995). Although dealing effectively with the social environment will likely lead to the development and maintenance of social connections with others, perceptions of social competence and perceived belonging are not the same construct. For example, it may be possible to be have very good social skills but still feel that you are an outsider, that you are not accepted, respected, connected in some way to the social group. Therefore, in a social perspective on motivation competence may not provide the driving force behind social behaviours. Meaning may stem from a sense of belonging rather than a sense of competence.
In summary, Harter's competence motivation theory has provided a useful framework for researchers interested in understanding the youth sport experience. Its developmental basis make this theory particularly suitable for youth sport research. As noted however, there is still room for extension and refinement particularly with regard to its application to sport. Specifically, Harter recognises the importance of the social domain in individuals' lives and that the perceptions of how effectively one is dealing with others impact on thoughts, feelings, and actions in that domain. Less, however, is known about how perceptions of social connections affect children's and adolescents' sport motivation and even less is known about why individuals seek out social interactions in the sport context.

**Achievement goal perspectives**

A prominent feature of motivation research in sport has been the focus of researchers on achievement behaviours and the view that sport is an achievement domain (Roberts, 1992a, 2001; Duda, 1992, 2001). Researchers have attempted to understand and explain such behaviours as individuals' choice of tasks (i.e., challenging versus easy), effort exertion, and persistence or lack thereof. Several social cognitive theories of motivation have been proposed to explain these behaviours and the processes that underpin them (e.g., Ames, 1992; Dweck, 1999; Dweck & Leggett, 1988; Maehr & Nicholls, 1980; Nicholls, 1984, 1989). Common to these perspectives is a focus on ability and, applied to sport, a focus on physical ability. In fact, it is assumed that in achievement contexts such as sport, physical ability is the major concern of individuals (Roberts, 1984; Duda, 1992). Further, central to these perspectives is a multidimensional view of ability which forms the basis of motivational or goal orientations individuals hold. These personality dispositions individuals bring with them to situations provide a framework through which events are interpreted, responded to, and lead to certain patterns of thoughts, feelings, and actions. Two prominent achievement goal perspectives are reviewed here. They are achievement motivation theory (Maehr & Nicholls, 1980) and achievement goal theory (Nicholls, 1984, 1989). Although in sport, researchers have emphasised physical ability as the central construct in achievement goal perspectives, attempts have been made to incorporate social motivational constructs. Further, review of these theoretical perspectives and early attempts to examine social aspects of motivation provides useful direction for the development of a theoretically based systematic examination of social motivation in youth sport.

**Achievement motivation theory**

Maehr and Nicholls (1980) emphasised that in order to understand achievement motivation researchers need to understand the *unique meaning* of behaviour to the individual in a given situation. This unique meaning is inseparably linked to the personal qualities
individuals value, the goals individuals adopt, and how success and failure are construed in the achievement context. Specifically, success and failure are viewed as "psychological states" that are a function of the extent to which the outcomes of goal striving are "perceived to reflect the presence or absence of desirable personal qualities" (p. 228). Within their framework, Maehr and Nicholls conceptualised goal orientations in terms of views about achievement success. They proposed that there are at least three views of achievement success or goal orientations that are universal across cultures. An ability-orientated motivation where the goal of behaviour is to maximise the probability of attributing high ability to oneself as well as avoiding tasks or situations where failure may imply low ability. A task mastery-orientated motivation where the goal of behaviour is to complete a task, solve a problem, produce a product for its own sake rather than to demonstrate ability. A social approval-orientated motivation where the goal of behaviour is to gain approval from significant others and therefore, the behaviours exhibited depend on what the individual believes is required to gain the desired approval (e.g., high effort, high ability). In addition to these universal views of achievement, Maehr and Nicholls also proposed that because the personal qualities seen as desirable may differ across cultures, between genders, and across the lifespan, there would be differences in the way achievement motivation was viewed across cultures, gender, and with individual development.

Only three researchers (Ewing, 1981; Vealey & Campbell, 1988; Whitehead, 1992, 1995) have attempted to systematically identify Maehr and Nicholls' social view of achievement success in sport. Ewing developed the Achievement Orientation Questionnaire (AOQ) for this purpose and a factor analysis of data from the AOQ revealed three goal orientations (i.e., ability, task, and social approval) and one additional factor labelled 'intrinsic' which represented feelings of adventure. Further, the social approval goal orientation discriminated between competitors, dropouts and non-participants in high school sports. Specifically, competitors (i.e., those who persisted longer) were more social approval oriented and less intrinsic and ability oriented than dropouts. Roberts (1984) suggested an explanation for this finding was that the sport environment provides many opportunities for social approval oriented individuals to meet their goal with coaches, parents, and peers all providing opportunities to gain social approval. Also even if social approval oriented athletes are not regularly playing in matches their mere presence on the sideline demonstrates loyalty to the team or indicates status and either maybe a sufficient source of satisfaction to encourage them to persist. In contrast, individuals who are ability oriented want to demonstrate their ability and standing on the sidelines does not give them the opportunity to achieve this goal. Only participation presents the opportunity to demonstrate their ability. However, participation also provides the potential for individuals to expose a lack of ability which would indicate failure
and may lead to lower persistence (Roberts, 1984). While an interesting explanation, little has been done to attempt to verify Roberts' claims.

Whitehead (1995) attempted to replicate and expand upon Ewing's (1981) findings with a sample of children and adolescents from the United Kingdom. She examined the factor structure of the AOQ data and using separate exploratory factor analyses for children and for adolescents revealed four factors similar to those identified in Ewing's original work (i.e., ability, task, social approval, and intrinsic). Further, as Ewing found, the achievement orientations discriminated between competitors, dropouts, and non-participants, although, the major discriminators were different to those found in Ewing's study. Specifically, for younger individuals (approximately 11 years of age) involved in school sport, competitors were more ability and social approval oriented compared with non participants and less intrinsically oriented than either non participants or dropouts. With regard to non school sports, competitors and dropouts were more social approval oriented than non participants.

In a subsequent study, Whitehead (1992) administered a longer version of the AOQ to 1,198 children aged 9 to 16 years. The modified version included new dimensions based on supplementary responses from the Whitehead (1995) study. Exploratory factor analyses of age and gender sub-groups yielded 13 to 16 factors, but Whitehead determined a six-factor solution was more meaningful. The six factors were considered as three pairs of factors: (a) beating others which was comprised of victory and ability orientations that represented the desire to demonstrate superior ability in direct competition with others or more indirectly; (b) personal progress which was comprised of mastery and breakthrough orientations that represented personal improvement and qualitative breakthroughs involving elements of novelty and progress; and (c) pleasing others which was comprised of teamwork and social approval orientations that represented co-operating with others and achievement to gain others' approval. Finally, a modified questionnaire based on these six factors was administered to another sample and structural equation modelling techniques used to examine the factor structure of the scale. Confirmatory factor analysis for a six first-order-factor, three second-order-factor model demonstrated acceptable fit (GFI .94, RMSR .055). Vealey and Campbell also identified a social approval orientation in their research with adolescent figure skaters. These findings, along with those of Ewing, provide preliminary evidence for the existence of Maehr and Nicholls' universal social view of success in the physical domain (i.e., social approval orientation) and that social motivational constructs can contribute to explaining participation status.

1 The Whitehead (1992) study was conducted after the Whitehead (1995) study although it preceded it in publication.
Critique

Despite promising initial findings with the AOQ, concern has been expressed over the lack of consistency in research findings examining the psychometric properties of the AOQ, specifically failure of subsequent studies to replicate the factor structure (Pemberton, Petlichkoff, & Ewing, 1986). For example, Vealey and Campbell (1988) found only two goal orientations. The first was labelled extrinsic and was comprised of items reflecting a focus on gaining social approval by demonstrating ability to others. The second orientation was labelled task and was comprised of items reflecting personal goal attainment and gaining intrinsic satisfaction for accomplishment. Whitehead’s (1992, 1995) research goes some way to address the issue of replicability, however, several questions remain regarding the conceptualisation of views of success and the measurement tools developed to assess these orientations. Specifically, in the first of Whitehead’s studies, the low internal consistency of the factors, especially for younger children, suggested that the scale needed further refinement. Revisions were made in Whitehead’s second study, however, it is not clear how or why the six factor solution was derived from the original 13 to 16 factor solutions. Further, given the variety of solutions produced across gender and age groups the universal nature of these orientations could be questioned.

Although Maehr and Nicholls suggested their three goal orientations were universal, they also suggested that views of success may vary across cultures and between genders as the personal qualities individuals view as desirable are likely to be different. Some support for this assertion has been demonstrated in research examining task and ability orientations in sport (e.g., Duda; 1985, 1986; Ewing, 1981; Hayashi, 1996). For example, Duda (1985) found both cultural and gender differences in sport achievement orientations. Males tended to be more ability oriented compared with females and Anglo males tended to be more ability oriented than either Anglo females, native Americans, or either male or female Mexican-Americans. Less is known with regard to cultural and gender differences relating to social approval orientation, although there is some research to suggest there are cultural differences. For example, Hayashi (1996), although not specifically testing Maehr and Nicholls’ assertions about goal orientations, found culturally based differences in achievement motivation among Anglo-American and Hawaiian male physical activity participants. Specifically, for Hawaiian but not Anglo-American participants a sense of in group pride and harmony such as making the family proud was characteristic of a positive activity experience.

Maehr and Nicholls (1980) proposed that at least three universal views about success exist in achievement contexts. Researchers have been able to identify these orientations in relation to achievement motivation in the physical domain one of which is social in nature. The findings demonstrate the diversity of conceptions of success individuals’ employ in physical activities and support the perspective that there are views about success that are common across
achievement domains (e.g., education, physical). Although, there is some concern over the psychometric properties of the scales developed to assess these orientations, research confirms the existence of social, as well as physical ability, related definitions of success in sporting contexts. Much remains to be determined with regard to the conceptualisation, operationalisation, antecedents, and consequences of a social motivational orientation. A useful starting point is to address why individuals feel successful when they gain social approval. That is, what is the unique meaning of this behaviour to the individual in a given situation. Although individuals may gain approval by demonstrating physical ability in sport the meaning they attach to their behaviour may lie in what this says about their social connections with significant others. That is, there is a social meaning underpinning their actions in sport. Examining how this social meaning influences individuals' thoughts, feelings, and actions in sport may provide researchers with additional insight into motivation processes in sport.

*Achievement goal theory*

Another achievement goal perspective prominent in sport psychology research is Nicholls' (1984, 1989) achievement goal theory. As with Harter and Maehr and Nicholls, Nicholls' achievement goal theory focuses on competence as the driving force behind motivation. In his formulation Nicholls maintained the view, shared by Maehr, that "the distinguishing feature of achievement behaviour is that its goal is competence or perception of competence" (1984, p. 328) and believed the central focus in any achievement context is individuals' desire to develop or demonstrate competence and avoid demonstrating low ability. However, rather than viewing the conception of competence as unidimensional, as Harter does, Nicholls suggested a multidimensional view of ability (Nicholls, 1990). He proposed that adolescents and adults can construe competence or ability in at least two different ways and that these conceptions of ability form the basis of two achievement goal orientations. These goal orientations still reflect the meaning of activity, as they did in Maehr and Nicholls' formulations, however, Nicholls' contribution was in specifying how different conceptions of ability develop and lead to different patterns of behaviour (see Figure 2 for a schematic diagram of tenets of Nicholls theory).

Nicholls (1984, 1989, 1990) proposed that if the focus of achievement behaviour is ability then to understand the motivational processes underpinning patterns of behaviour researchers must understand how individuals view ability. He based his formulation of goal orientations on a detailed analysis of the developmental changes in children's cognitions about ability. Specifically, he identified that young children do not distinguish between luck and skill, or between task difficulty, effort, and ability as causes of success. However, with cognitive maturation, by approximately 12 years, individuals do make these differentiations
and can construe ability in two ways - a childlike, undifferentiated view and a differentiated view (Nicholls, 1978; Nicholls & Miller, 1985). Although Nicholls focused on how academic ability was construed, researchers in the physical domain have demonstrated evidence supporting a similar developmental progression of differentiation with regard to physical ability (Fry, in press cited in Fry, 2000; Fry 2000; Fry & Duda, 1997).

The tendency or predisposition to adopt a childlike view of ability in achievement contexts was termed a task goal orientation because the focus of the activity is on task mastery and the development of competence. With this orientation, ability is evaluated in relation to the individual's own mastery and understanding. That is, individuals who view ability as undifferentiated will feel competent (and therefore successful) if they perform personal best times or improve performance on a task that is difficult for them. The tendency or predisposition to adopt a differentiated conception of ability, where differentiation is made between luck and skill and between task difficulty, effort, and ability as causes of outcomes when judging ability, was termed ego goal orientation. With a differentiated conception of ability, competence is evaluated relative to that of some normative or comparative group or standard. That is, to feel competent individuals must believe they have developed or demonstrated above average ability. Further, only when effort is equal and optimal across comparative individuals can a valid inference about ability be made. This orientation also emphasises the self and what the demonstration of high ability relative to others says about who one is as a person. That is, the demonstration of superior ability says something desirable about oneself. Therefore, in situations where individuals believe that their ability is being evaluated their sense of self is 'on the line' not just their ability.

A substantial body of empirical evidence now exists supporting the existence of task and ego goal orientations in sport (see Duda, 1993; Duda & Whitehead, 1998 for reviews). Nicholls' (1984, 1989) emphasis on competence as central to motivation has been interpreted in sport as an importance of physical competence and goal orientations have been conceptualised in terms of two views of physical ability (Roberts, 1984, 1992a). In over 80 published articles sport researchers have examined the relationships among goal orientations and a variety of psychological variables. In general, this research provides evidence to support tenets of Nicholls' theory in sport. Individuals beliefs and attitudes toward sport have been related to goal orientations in a theoretically consistent manner. For example, a task orientation has been associated with skill development, co-operative, and prosocial beliefs about the purposes of sport, the belief that effort and motivation are the causes of success in sport, and a preference for individual development and positive affect as sources of competence information (e.g., Duda, 1989b; Duda, Fox, Biddle, & Armstrong, 1992; Duda & Nicholls, 1992; Hom, Duda, & Miller, 1993; White, Duda, & Keller, 1998; White & Zellner, 1996; Williams, 1994). Further, a task orientation has been associated with positive affect,
Figure 2. Schematic diagram of Nicholls' (1984, 1989) achievement goal theory.
persistence, recognition of the importance of practice, and lower social loafing (e.g., Boyd, & Yin, 1996; Duda, 1989a; Duda & Nicholls, 1992; Duda et al, 1992; Hom et al, 1993; Lochbaum & Roberts, 1993; Swain, 1996; Vlachopoulos, Biddle, & Fox, 1996). In contrast, an ego orientation has been associated with beliefs that sport should enhance one's self esteem and social status, that success requires high ability, endorsement of the legitimacy of injurious acts, and a preference for social comparison as a source of competence information (e.g., Duda, 1989b; Duda, et al, 1992; Duda & Nicholls, 1992; Duda, Olson, & Templin, 1991; Hom, et al, 1993; Lochbaum & Roberts, 1993; Stephens & Bredemeier, 1996; White, et al, 1998; White & Zellner, 1996; Williams, 1994). Further, an ego orientation has been associated with greater cognitive anxiety prior to competition, lower value of competition and practice strategies, and greater social loafing (e.g., Hall & Kerr, 1997; Lochbaum & Roberts, 1993; Swain, 1996; White & Zellner, 1996).

The research in sport examining correlates of task and ego goal orientations demonstrates two relatively distinct patterns of thoughts, feelings, actions, one motivationally more adaptive than the other. These patterns can be explained by the different world views individuals hold which are reflected in their goal orientation. The cluster of positive outcomes associated with a task orientation can be explained by the emphasis individuals with a task orientation place on the process of engagement as an end in itself. Task oriented individuals are concerned with the development of their ability, they feel competent and successful when they improve, or master a difficult task. For these individuals their perceived normative ability does not impact on their behaviour. They are interested in personal improvement which they have at least some control over. In contrast, an ego orientation involves a means to an end focus. These individuals feel competent and successful only when they demonstrate ability superior to that of others and what this says about the individual as a person is a central concern. Although ego oriented individuals may appear to exhibit adaptive functioning, this pattern is only apparent as long as they are successful, as long as they perceive they have high relative ability. When these individuals fail or begin to doubt their ability, the maladaptive behaviours become apparent. The outcome of their actions is what is critical not how they get there and because their sense of self is 'on the line' in evaluative situations these individuals are likely to exhibit a cluster less motivationally adaptive thoughts, feelings and actions compared with task oriented individuals even if perceived physical ability is high. Therefore, goal orientations are an important central construct in motivation theory because they provide an explanation for the quality of motivation individuals' exhibit.

Critique

Nicholls' (1984, 1989) achievement goal perspective has made important contributions to our understanding of motivation in sport and the psychological processes that underpin
motivation. Achievement goal perspective was developmentally based and focused on the meaning individuals associate with situations as influential in subsequent thoughts, feelings, and actions in that context. Nicholls recognised the multidimensional nature of ability, that different conceptions of ability lead to different quality of motivation, and used the concept of motivational orientations to capture individual differences in the quality of motivation. These motivational orientations lead to, allow explanation for, and prediction of different patterns of cognitions, affects, and behaviours exhibited in sport contexts which create individuals' sport experience. Two orientations have been the focus of research in sport, one leading to a motivationally more adaptive pattern of thoughts, feelings, and actions than the other.

Another contribution Nicholls made was an association between motivation and self. This association is implicit rather than explicit in Nicholls discussion of ego orientation and ego involvement. Specifically, he implies that with the adoption of a differentiated conception of ability (i.e., ego orientation or involvement) individuals see their self as on the line in achievement situations. "Adolescents conceive ability as capacity (not merely performance) relative to that of others. In this case, perception of low ability more clearly involves perception of inadequacy in the self - lack of capacity that can not readily be altered." (Nicholls, 1984, p. 329). Nicholls was suggesting that the outcome (i.e., demonstration of high or low relative ability) has become the salient aspect of performance because it says something about who the individual is and his or her worth as a person. The distinction between whether goal orientations are more or less motivationally adaptive may lie in the extent to which individuals feel their sense of self is under scrutiny or even threatened in the sport context. Research of Dweck and colleagues examining motivation in the classroom provides evidence supporting this association between self, motivation, and patterns of thoughts, feelings, and actions (see Dweck, 1999 for a review). Dweck's model of motivation is built around the self, focusing on the self-beliefs and self-relevant goals individuals develop and the processes they engage in as they strive to validate or expand their sense of self. A similar association between self and motivation is likely to exist and may provide a central distinguishing feature of multiple social orientations. That is, with regard to social interactions individuals may view these as an opportunity to validate who they are or an opportunity to develop and grow as a person. These views about social interactions may in turn lead to different patterns of cognitions, affect, and behaviour in social situations and ultimately different influences on the sport experience.

Despite the contributions of Nicholls’ theory and the demonstrated empirical support for tenets of his theory in sport, the conceptually consistent relationships, although statistically significant, seldom account for more than 20-30% of the variance in the relationships. Clearly there is more to discover about the psychological processes that underpin motivation in youth sport. One area of research that might prove useful in furthering researchers' understanding of
motivation is the examination of the contribution of social aspects of motivation. Although researchers employing achievement goal perspectives in sport have emphasised physical ability and related constructs, goal orientations have been associated with social aspects of motivation. For example, a task orientation has been associated with endorsement of prosocial beliefs about the purposes of sport such as advancing good citizenship and cooperation (White, et al, 1998) and the belief that collaboration is important for success (Duda & Nicholls, 1992). Further, a task orientation has been associated with social motives for participation in sport such as cooperation (White & Duda, 1994). Therefore, links with aspects of social motivation are evident within this framework, however, little is known about the unique contribution of social motivation to understanding youth sport motivation. Researchers employing achievement goal theory has paid only limited attention to the nature of sport as both a physical and social context and the possibility that social goal orientations and self-perceptions related to the social aspects of sport maybe equally important in understanding motivation and the consequences of sport participation.

In summary, research in sport based on achievement motivation perspectives has provided a wealth of data and insight into the psychological processes that underpin motivation. In sport the primary focus of this research has been on constructs related to physical competence such as perceptions of physical ability and physical ability related motivational orientations. A small amount of research has demonstrated that individuals are oriented toward the social aspects of sport, specifically the opportunity to gain social approval. A social approval orientation alone, however, may not adequately account for individuals' social view of sport. Multiple views may exist. To gain a better understanding of social motivation in sport researchers may benefit from developing a clearer picture of the social meaning individuals attach to sport. For example, viewing sport as an opportunity for affiliation is likely to have very little to do with social approval and equally the cognitive, affective, and behavioural processes individuals engage in as they pursue these self-relevant goals are also likely to be different. The achievement goal perspectives, or at least as they have been applied in sport research to date, however, maybe inappropriate to examine the unique contribution of social motivation in youth sport. Nicholls, Cheung, Lauer, and Patashnick (1989) suggested that the study of social goals was a topic in its own right and combining social and ego goals, as had been done in the past (e.g., Nicholls et al, 1985), may in fact confound the understanding of the role in motivation of both types of goals. Holding physical ability as the central construct in a theory of motivation may confound our understanding of social aspects of motivation. Researchers interested in social motivation may benefit from developing theory to capture the social meaning individuals attach to sport and examining the central role of self-perceptions with a social emphasis such as the perception of social bonds play in the psychological processes.
Self-determination theory

A third theory prominent in sport motivation research is self-determination theory (Deci & Ryan, 1985a) and Vallerand's (1997) extension of self-determination theory. This theory is based on the proposition that the fundamental psychological needs for competence and autonomy provide the basis for individuals' intrinsically motivated interactions with the environment. Unlike Harter, Maehr, and Nicholls who emphasised competence, Deci and Ryan focused their explanation of motivation on the self-determination of behaviour. They posited that it is not necessarily the amount of motivation that differs when individuals feel autonomous, or self-determined, versus controlled but rather there is a qualitative difference in the type of motivation exhibited (i.e., intrinsic and extrinsic motivation, and amotivation) and this results in different quality of functioning and experience.

Intrinsic motivation reflects wanting to engage in an activity for the cognitions and affect inherent in doing the activity, engaging in the activity for its own sake. When intrinsically motivated, individuals are concerned with the process of doing the activity not the product or outcome of the activity (Vallerand, 1997). Initiation and regulation of behaviour is completely self-determined in intrinsically motivated behaviour. Conversely, extrinsic motivation reflects engaging in an activity in order to gain something that is separable from the activity itself. In this case behaviour is instrumental in attaining some reward and because the reward is often controlled by others, or at least not directly under the control of the individual, behaviour varies in the extent to which it is self-determined. For extrinsically motivated individuals the end result or product of the activity is the central concern (Vallerand, 1997). Finally amotivation was viewed as a relative lack of either intrinsic or extrinsic motivation. Amotivated behaviours are initiated and regulated by forces that are perceived to be totally beyond individuals' intentional control.

Self-determination theory was comprised of three mini theories. The first, and best articulated mini theory, was cognitive evaluation theory which was developed to explain the effects of external events on intrinsic motivation. Research in sport has primarily focused on investigating the tenets of cognitive evaluation theory and its emphasis on physical competence and autonomy. Specifically, the effects of environmental factors such as success and failure, competitive structure, coach behaviour, scholarships, rewards, and feedback on motivation have received considerable attention in sport research. This literature has been extensively reviewed by a number of researchers and has shown that environmental factors do influence quality of motivation (see Frederick & Ryan, 1995; Vallerand, 1997; Vallerand, et al, 1987; Vallerand & Losier, 1999 for reviews). For example, in a study of university athletes, Amorose and Horn (2000) found that coaching behaviours which convey information, that support athletes' autonomy, and that are less controlling of athletes' behaviour were related to higher intrinsic motivation. Whitehead and Corbin (1991) directly tested the proposition of cognitive
evaluation theory relating to the mediating effects of perceptions of competence on motivation. In a pretest-posttest experimental design with a group of school children engaged in a physical fitness test participants were given either positive, negative, or no feedback regarding their performance on a fitness test and then their intrinsic motivation and perceived physical competence were assessed. Path analyses revealed that perceived competence mediated the relationship between feedback and each of the indices of intrinsic motivation and demonstrated support for cognitive evaluation theory in the physical domain.

Drawing from and extending cognitive evaluation theory (Deci & Ryan, 1985a), Vallerand (1997) developed a hierarchical model of motivation (see Figure 3). As part of this model he proposed that the influence of environmental factors on motivation was mediated by perceptions of competence, autonomy, and relatedness. Although Deci and Ryan had included relatedness in their early conceptualisations, until recently little attention had been given to the construct (e.g., Ryan & Deci, 2000; Ryan et al, 1995). Vallerand suggested that perceived relatedness is an important mediator because it is associated with the need for social connections which individuals are inherently motivated to satisfy. The incorporation of relatedness is important for the research presented in this thesis as it recognises the salience of connections with others (social motivation) in determining and understanding motivation. Deci and Ryan (1995) also acknowledged the fundamental nature of relatedness alongside competence and autonomy in human functioning but did not incorporate it in their theory development. Vallerand (1997) proposed that environmental factors that "facilitate feelings of competence, autonomy, and relatedness will lead individuals to freely engage in the activities in which these perceptions were experienced because such activities allow individuals to satisfy their needs" (p. 300). Factors that facilitate these perceptions will increase self-determined forms of motivation and those that impair these perceptions will have a negative effect on intrinsic and self-determined extrinsic motivation, while facilitating non-self-determined forms of motivation and amotivation.

To date no published research has examined the role of perceived relatedness in understanding the psychological processes of sport motivation. In an unpublished study of basketball players by Blanchard and Vallerand (1996 reported in Vallerand, 1997 and Vallerand & Losier, 1999), however, the relationship among perceptions of physical competence, autonomy, relatedness, intrinsic and extrinsic motivation, perceptions of coach's interaction style, and team cohesion were examined. A path analysis revealed that the more the coach was perceived as autonomy-supportive by his or her players and the more cohesive they perceived the team, the more physically competent, autonomous, and related to the team players felt. Further, the paths from perceived autonomy and perceived relatedness to self-determined contextual motivation were significant supporting the mediating effect of self-perceptions on the relationship between contextual factors and intrinsic motivation.
Figure 3. Schematic diagram of Vallerand's (1997) hierarchical model of intrinsic and extrinsic motivation
Interestingly, the path between perceptions of physical competence and self-determined motivation was not significant. The research reported here demonstrates support for Vallerand’s addition to cognitive evaluation theory in physical activity settings and the findings also indicate room for further exploration of the role of relatedness in understanding sport motivation.

The second and third mini theories of self-determination theory (Deci & Ryan, 1985a) dealt with the development of intrinsic and extrinsic motivation over time and the development of orientations or tendencies to interpret information in certain ways. Deci and Ryan proposed that intrinsic motivation was innate but became focused on certain areas based on individuals' interests. These interests developed as a result of interactions with the environment. In addition, Deci and Ryan suggested that not all behaviours are initially interesting or spontaneous and therefore likely to be intrinsically motivated but are still useful for effective, self-determined functioning in the social world. For such behaviours, initiation and regulation are first externally controlled (external regulation) and through the processes of internalisation and integration individuals assimilate and accommodate these external controls gradually incorporating them into their sense of self (integrated regulation). However, not all behaviour controls become fully integrated with one’s self and completely self-determined, some may be internalised but remain predominantly externally regulated and not self-determined (introjected regulation). Thus, the self-determination continuum persists and is refined over time and with individuals’ development.

In causality orientation theory, the third mini theory, Deci and Ryan recognised that ultimately it is individuals’ perception of the event that determines its functional significance. It is the meaning of the event to individuals that effects their perceptions of competence and autonomy and subsequent behavioural regulation. Further this meaning is not only a product of the characteristics of the event but the tendency individuals have to interpret events as informational, controlling, or amotivating. These individual differences in style or tendencies to interpret or focus on certain aspects of events were referred to as causality orientations. Deci and Ryan argued that it is useful to assess people’s generalised tendencies to be autonomous (self-determined), controlled, and impersonal with regard to determination of their behaviour. They believed such general orientations would be predictive of a wide variety of constructs, affects, attitudes, and behaviours.

A tendency to view events as informational or focus on the informational aspects of the event was referred to as an autonomous orientation and was associated with an internal perceived locus of causality. Individuals who tend to perceive an external locus of causality and focus on the controlling aspects of events were said to have a controlling orientation. Finally, individuals for whom the initiation and regulation of their behaviour was from unknown or unclear sources and who tend to perceive an external impersonal locus of causality
were said to have an impersonal orientation. Deci and Ryan (1985b) found that individuals high in an autonomy orientation were also high in self-esteem and low in anxiety, individuals high in control orientation were high in Type A behaviour pattern, and individuals with an impersonal orientation had high levels of self-derogation, depression, social anxiety, and low self-esteem. These findings support tenets of self-determination theory. Specifically, that general orientations or tendencies can be assessed and that they are predictive of a variety of constructs in a theoretically consistent manner. Little is known about the extent to which causality orientations may prove useful in adding to researchers' understanding of motivation processes in sport. What is more important for the research presented here is that in proposing a concept of causality orientations Deci and Ryan recognised the contribution individual difference factors that captured general tendencies to interpret events in a certain way could have to explaining motivation processes and outcomes. In this way, their theorising with regard to orientations as general tendencies has parallels with that of Hater, Maehr, and Nicholls.

Critique

Self-determination theory, and particularly cognitive evaluation theory, have provided researchers with a valuable framework for understanding and explaining motivation in a variety of contexts including sport. By employing this perspective researchers have acknowledged the importance, and examined the implications, of psychological needs other than the need for competence (cf. Harter, 1978; Nicholls, 1984), most notably the need for autonomy, as the driving force behind behaviour. More recently, however, researchers have also recognised the potential utility of incorporating the need for relatedness, as a critical driving force behind many behaviours (e.g., Ryan, 1993; Vallerand, 1997). Although generally recognised as a fundamental human need (e.g., Deci & Ryan, 1985a, 1995; Maslow, 1954; Baumeister & Leary, 1995), there is a paucity of research examining implications of perceptions of social bonds for explaining motivation. Vallerand's hierarchical model provides an initial step toward addressing this paucity by incorporating perceived relatedness in his model as a mediator between environmental factors and forms of motivation. Empirical support for this relationship in sport, however, has yet to be established.

Much of the focus of self-determination theory has been on just one of the three mini theories, cognitive evaluation theory. This is a situation-oriented theory, giving limited attention to individual differences in the motivation process. Deci and Ryan's (1985a, 1985b) causality orientation theory begins to address individual difference influences but has received relatively little research attention and none with regard to sport. Sport psychology research is typically based in an interactionist paradigm (Gill, 2000) where both person and environmental factors are critical in determining behaviour. Therefore, to understand the psychological
processes that underpin behaviour in the sport context consideration of both individual differences such as motivational orientations and situational factors is necessary. Deci and Ryan emphasised causality as the defining feature of motivational orientations, more importantly for this investigation however, is that they recognised the utility of a concept such as an orientation. A concept that describes and explains individual differences in how events are interpreted and responded to. In this way their thinking parallels that of Harter, Maehr, and Nicholls. That is, they all believed that individuals develop tendencies or dispositions to interpret and respond to events in certain ways. Further, these dispositions lead to more or less adaptive patterns of cognitions, affect, and behaviour.

In summary, self-determination theory and particularly cognitive evaluation theory has proved useful in explaining behaviour in sporting contexts, especially the influence of situational factors on behaviour regulation. This research and theorising has primarily focused on intrapersonal psychological needs and related self-perceptions of autonomy and competence. Researchers have largely ignored interpersonal growth and development and the associated self-perception of relatedness, severely limiting any investigation of social motivation. Recent discussion and inclusion of the psychological need for relatedness and perceived relatedness begins to address this limitation, however, propositions that have been forwarded are awaiting empirical verification (e.g., Vallerand's 1997 model). Further by emphasising the importance of situational factors the influence on motivation of individual difference factors such as motivational orientations have been relatively ignored. The recognition of individual dispositions to view events differently parallels the concept of motivational orientations forwarded by Harter, Maehr, and Nicholls in their respective theories of motivation and suggests such a construct plays a central role in explaining the processes that comprise motivation in sport.

Implications of current perspectives on motivation for this investigation

It is clearly demonstrated in the participation and attrition motivation literature that social aspects of sport are salient in the choices and decisions children and adolescents make with regard to sport involvement. This research, however, only describes why individuals participate or withdraw and provides little in the way of explanation of the psychological processes that underpin participants' decisions. In contrast, theoretical approaches have provided explanation of the psychological processes but have paid less attention to the salience of social aspects of motivation. The three approaches reviewed here focus predominantly on competence, and specifically physical competence as central to understanding motivation in the physical domain.
An underlying assumption central to current perspectives on motivation is that in physical activities such as sport individuals have a desire to feel physically competent. That is, individuals derive meaning from sport participation in terms of their physical competence. Although these approaches have proven fruitful in furthering our understanding of motivational processes in youth sport, such an emphasis on physical competence does not consider the social meaning individuals may derive from their sport experiences. There may be overlap between social motivation and competence related factors but to date researchers have not explored the possibility that there may be an unique contribution to be made by social motivation. That is, the meaning behind investment in sport may be purely social. Therefore, there is a need to adopt a view of motivation that captures the social side of the psychological processes underpinning children’s and adolescents’ sport experience.

Despite the narrow focus on the physical nature of sport in both research and theory, the review in this chapter illustrated several common elements among the theoretical approaches that can inform the development of a theoretically based conception of social motivation for youth sport. First, all three perspectives used the concept of motivational orientations to describe and explain individuals’ quality of motivation. These orientations were conceptualised as relatively stable dispositions or tendencies individuals bring with them to sporting situations which influence their thoughts, feelings, and actions. Harter (1978, 1981a) described two motivational orientations which develop through socialisation experiences which guide the way in which they approach competence challenging situations. Nicholls (1984, 1989) described two goal orientations which were tendencies to adopt certain conceptions of ability in situations where competence is salient and the conception of ability adopted influenced how situations were interpreted and responded to. Deci and Ryan (1985b) described causality orientations which were individuals’ tendency to interpret situations as controlling or self-determined. Although each emphasised a different defining feature, a concept such as motivational orientations is useful in this research because it provides an explanation for the quality of individuals’ motivation. Why two individuals may think, feel, and act very differently in the same situation.

A second common element among these perspectives was that each of the theorists made a distinction between patterns of more and less motivationally and developmentally adaptive cognitions, affect, and behaviours that were underpinned by individuals' motivational orientation. The orientations leading to an adaptive pattern of functioning were intrinsic (Harter, 1978, 1981a), task (Nicholls, 1984, 1989), and autonomous (Deci & Ryan, 1985b), while the orientations leading to less adaptive patterns were extrinsic (Harter, 1978, 1981a), ego (Nicholls, 1984, 1989), and controlling (Deci & Ryan, 1985b). Researchers have found theoretically consistent associations between these orientations and patterns of thoughts, feelings and actions such as beliefs and attitudes toward sport, enjoyment, satisfaction, anxiety,
behaviours and strategies endorsed, and self-perceptions. Individuals' underlying motivational orientation provides an explanation for this distinction between patterns of consequences of motivation processes and therefore an explanation for individual differences in quality of motivation.

The explanation for these differing patterns of functioning lies in the world views and meaning captured within individuals' motivational orientations. Specifically, orientations that tend to lead to more maladaptive functioning also tend to emphasise validation and a preoccupation with how one 'measures up' compared with others. Their sense of self tends to be 'on the line' in potentially evaluative situations. Failure to measure up leads to a sense of inadequacy with one's self. In contrast, orientations that tend to lead to adaptive responses emphasise engagement in the process, in personal development. Evaluative situations are an opportunity to gauge progress and identify areas for future development. Failure to 'measure up' means that the strategies employed need to be altered not that one is a bad person.

The third common element was that all three perspectives gave self-perceptions a central place in understanding motivation. In the sport research based on these perspectives perceived physical competence has been given centre stage. Generally, it proposed that if individuals feel physically competent they are more likely to enjoy their sport involvement, feel satisfied, and continue their participation compared with individuals who have lower perceptions of their physical ability. Applications of Nicholls' (1984, 1989) theory to sport have maintained this emphasis on perceived physical competence. Researchers applying Harter's (1978, 1981a) theory have also emphasised perceptions of physical competence, however, a limited number of researchers have adopted Harter's broader view of competence that includes social competence (e.g., Klint & Weiss, 1987). The inclusion of social competence partially recognises the salience of social aspects of sport to motivation. Vallerand and colleagues (see Vallerand, 1997 for a review), the main group of researchers adopting Deci and Ryan's (1985a) perspective in the physical domain, have emphasised perceived physical competence and perceived autonomy equally. They have also made mention of perceived relatedness, a self-perception related to social connections, however, this has not been the focus of their research. Giving self-perceptions a central role in a theory of motivation again provides depth to the explanation of motivational processes in sport. That is, individuals participate in sport because sport provides them with an opportunity to feel good about themselves whether that is feeling physically competent, or feeling self-determined and in control, or feeling connected with significant others. In reality these perceptions all exist together and the interrelations among them may be very complex, however, to date little is known about the unique contribution to understanding motivation processes made by perceptions of social connections.
These common elements among current perspectives on motivation in youth sport are important features of a theory of motivation. Motivational orientations and self-perceptions are not isolated factors that simply describe what individuals do or think. They are interrelated and provide explanations as to why individuals behave and think in the ways they do. In this way constructs such as motivational orientations and self-perceptions provide researchers with a way to explain the psychological processes that underpin youth sport motivation. Therefore, this research is critical to developing a theoretically based concept of social motivation for youth sport.

What is missing from these explanations of motivation in sport is consideration of the importance of social motivation. To date, only lip-service has been paid to social motivation in sport. It has tended to be considered as an aspect of competence or as an extrinsic reinforcer of competence but researchers have not explained how it can be a fundamental energiser of behaviour. That individuals may view sport as a social context instead of, or at least in addition to, viewing it as a physical achievement context. Individuals may be oriented toward interpersonal relations and perceptions of social connections and this may provide critical information about their sport experience. In the next chapter, research that has examined social motivation in contexts such as education and social psychology is reviewed, critiqued, and a theoretically based model of social motivation is proposed.
CHAPTER THREE: CONCEPTUALISING SOCIAL MOTIVATION IN YOUTH SPORT

In the previous chapter, I reviewed the existing literature on motivation in youth sport. This research has provided a great deal of insight into the psychological processes underpinning individuals' motivation in sport. The current motivation literature, however, lacks attention to the social side of sport, specifically a systematic approach to examining children's and adolescents' social motivation. In this chapter I propose a theoretically based model of social motivation for youth sport. As already noted there is a paucity of research on social motivation in sport, however, several researchers in educational and social psychology have presented compelling arguments for the exploration of a social aspect to motivation (e.g., Baumeister & Leary, 1995; Blumenfeld, 1992; Eccles, et al, 1998; Juvonen, 1996; Goodenow, 1992; Maehr, 1984; Ryan, 1993; Ryan, et al, 1995; Urdan & Maehr, 1995; Weiner, 1990; Wentzel, 1999). Further, a social motivation view has been supported by evidence from preliminary research in these areas (e.g., Anderman, 1999; Anderman & Anderman, 1999; Goodenow, 1993a, 1993b; Patrick, et al, 1997; Kasser & Ryan, 1993, 1996, 1999; Roeser, et al, 1996; A. Ryan, et al, 1997; Ryan, et al, 1994; Wentzel, 1993, 1996). Therefore, in developing the social motivation model for youth sport motivation concepts and ideas were drawn from educational and social psychology research as well as from the youth sport motivation research presented in chapter two.

A model of social motivation in youth sport

Overview

The perspective presented here is an integration of several social cognitive approaches to motivation, specifically, competence motivation theory (Harter, 1978, 1981a), self-determination theory (Deci & Ryan, 1985a, 1991), achievement goal theory (Nicholls, 1984, 1989), and social-cognitive theory of achievement motivation (Dweck & Leggett, 1988; Dweck, 1999). Like these approaches, motivation within the social motivation model is viewed not as an entity that individuals possess but as a psychological process or number of processes that selectively direct, energise, and regulate cognition, affect, and behaviour (Ford, 1992; Roberts, 2001). A process that varies with the meaning individuals attach to the situation and therefore meaning is the critical determinant of motivation (Maehr, 1984; Roberts, 2001). Unlike the current dominant approaches to understanding sport motivation, however, it is proposed that meaning attached to sport is not only related to one's physical competence but to one's sense of belonging within the social context of sport. It is argued here that because sport
is a social as well as a physical context, sport provides a context in which individuals can satisfy the need for social connections. Therefore, sport has social meaning to participants.

Within this model the concern is not with maximising the amount of motivation individuals possess but rather examining the quality of their motivation. The quality of motivation is important because differences in motivation quality provide an explanation for the different patterns of thoughts, feelings, and actions individuals exhibit and experience in sport (Covington, 1992; Deci, 1992; Deci & Ryan, 1985a; Maehr, 1984). It is proposed that the constructs central to explaining qualitatively different social motivation in sport are social motivational orientations and perceptions of belonging (see Figure 4). First, it is proposed that like motivational orientations related to physical competence individuals have multiple social motivational orientations that lead to different patterns of cognitions, affect, and behaviours which in turn effects their quality of functioning and experiences in sport. These orientations are relatively stable dispositions that reflect the framework or ‘world view’ individuals bring with them to sporting situations through which events are interpreted and responded to. Second, it is proposed that the influence of social orientations on outcomes of the motivational process in sport is mediated by perceptions of belonging. That is, the extent to which individuals feel they are personally accepted, respected, included and supported by others (Goodenow, 1993a), that they are developing and demonstrating social connections with significant others influences individuals thoughts, feelings, and actions.

The first proposed orientation is an affiliation orientation in which the primary concerns are the development and maintenance of mutual interpersonal relationships. This orientation is hypothesised to lead to a motivationally adaptive pattern of thoughts, feelings, and behaviours because the focus is on the social interactions themselves and the reciprocity of the relationships. The second proposed orientation is a social validation orientation and reflects a desire to gain something from interpersonal interactions such as status, approval, or recognition. Social validation oriented individuals define belonging in terms of status or recognition given by others and as a result have limited control over whether they have secure, stable, ongoing relationships with significant others. Therefore, this orientation is hypothesised to lead to less motivationally adaptive behaviours, cognitions, and affect, particularly when perceptions of belonging are low and important relationships are perceived to be threatened.

In summary, one goal of action in social contexts such as sport is belongingness and this can be considered as an energiser for motivated behaviour. That is, sport is meaningful to participants because participation provides an opportunity to develop or demonstrate connections with others. It is proposed that youth sport participants recognise the social nature of sport and that the meaning of their behaviours in this context is related to the development and demonstration of social bonds with significant others. Specifically, individuals are likely to feel good about their involvement in sport if they feel they belong, that they are accepted,
respected, included members of the social group. In contrast, if participants feel devalued, little respect from others, socially excluded, or even on the fringe of the social group they are likely to feel that things are not going well, that they do not belong and they are less likely to feel good about their involvement in sport. The criteria individuals employ to evaluate their social involvement in sport differs in accordance with their motivational orientation. Individuals high in affiliation orientation focus on being with and enjoying friendships and interpersonal interactions, whereas individuals high in validation orientation rely on others to reaffirm their sense of belonging and with it their sense of who they are.

Figure 4. Central constructs of the social motivation model for youth sport.

In the following sections each of these features of the social motivation model are discussed in more detail and research evidence provided to support the propositions that are forwarded within the model. First, the personal meaning of sport participation as a social meaning is discussed. This is followed by discussion of individual differences in the quality of social motivation and the concept of social motivational orientations. The discussion then turns to the centrality of self-perceptions, specifically, perceived belonging in sport, within the model of social motivation. Having proposed a theoretically based model of social motivation, research hypotheses are proposed to test the propositions forwarded in the model.

**Personal meaning: Belongingness**

Maehr (1984) proposed that underlying the behaviour patterns from which motivation is inferred is the meaning of the situation to the person. That is, the "effects of external factors
are filtered through perceptions of the person and are mediated by the meanings imposed on them by the individual involved" (Maehr, 1984, p. 122). It is proposed here that because sport is a social context, as well as a physical achievement context, it can have a social meaning for those involved. Further, the energiser of this social meaning is the fundamental psychological need for social bonds with significant others. That is, individuals have a need for belongingness and therefore seek out social contexts in which to satisfy this need. Sport provides one social context in which to do this.

The desire for social bonds and connections with others has a long history in motivation research. It has been referred to as the need for affection between people (Murray, 1938), the need for positive regard from others (Rogers, 1951), belongingness (Maslow, 1954, Baumeister & Leary, 1995), affiliation motivation (McClelland, 1987), and the need for relatedness (Deci & Ryan, 1985a, Ryan, 1993). Recently, Ryan and colleagues (Ryan & Powelson, 1991; Ryan, et al, 1995; Ryan & Deci, 2000) argued that healthy development is not just about developing competencies it is about organising one's social life as well. This involves internalisation of social learnings and they suggested that the need for relatedness provides the impetus for this internalisation and energises interpersonal explorations and interactions. Baumeister and Leary echoed Ryan and colleagues sentiment arguing further that belongingness is more than the need for affiliation (i.e., the need to be with others) described by other researchers (e.g., McClelland). Rather they suggested the need to belong is characterised by a need for regular contact and the perception that the interpersonal relationship has stability, affective concern, and is ongoing. They proposed that as “a fundamental motivation, the need to belong should stimulate goal-directed activity designed to satisfy it” (p. 500). As a consequence of the need to belong individuals should show tendencies to seek out interpersonal contacts and cultivate relationships. Their thoughts should reflect a pervasive concern with forming and maintaining relationships. They should experience positive affect from forming and solidifying social bonds and negative affect when relationships are broken, threatened, or refused (Baumeister & Leary, 1995). Further, individuals who feel that they belong, that they have secure attachments with significant others, and/or feel a connection with significant individuals are more likely to display adaptive developmental and motivational functioning compared with individuals lower in perceived belonging (Baumeister & Leary, 1995; Ryan, 1993; Ryan, et al, 1995).

It has been suggested that, as motivational constructs, needs are outdated because they do not allow that humans are intentional and goal-directed beings (Roberts, 2001). Therefore, critics might argue against a theory of social motivation centring on a construct such as the need for belongingness. However, the proposition central to this model of social motivation is

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2 The terms 'relatedness' and 'belonging' have both been used to refer the desire for social bonds and connections with others.
that the desire to develop or demonstrate social connections or bonds with others provides the impetus, is the energiser of, motivated behaviour in sport. That is, sport is simply a context whereby individuals can fulfil this need. The position is less about whether belongingness is an innate fundamental psychological need or whether it is a personally or socially-valued goal of action developed through life experience. Rather, the important point is that belongingness is a critical determinant of motivated behaviour in social contexts. Humans are interested in and invest effort in pursuing social interactions (Baumeister & Leary, 1995) and sport is a meaningful activity because of the inherent opportunities for developing and demonstrating social connections.

Research from education provides support for a relationship between perceived belonging and positive outcomes such as adaptive self-regulation, academic competence, affect toward school, and achievement. Goodenow (1993a) proposed that a sense of belonging at school reflects “the extent to which students feel personally accepted, rejected, included, and supported by others in the school social environment” (p. 80) and proposed that perceived school belonging should be related to quality of functioning at school. In a series of three studies with middle school children Goodenow demonstrated that perceived belonging was a significant predictor of differences between contrasted groups. Specifically, urban students who had chosen to transfer to a different school the following year reported significantly lower belonging compared with those students choosing to stay in the same school. Further, teacher-rated effort was higher for students reporting higher perceived belonging compared with those reporting a lower sense of belonging. Students reporting greater belongingness were also less likely to be absent and tardy and more likely to hold higher expectations of school success, value schoolwork more, and obtain higher actual school achievement. In another study of middle school children, Roer, and colleagues (1996) found that 8th grade students who reported higher perceived belonging also reported a greater sense of academic self-efficacy and positive affect toward school. These students also attained higher academic grades and were less self-conscious at school. Similar to Roers and colleagues, Anderman (1999) also found that for 5th and 6th grade children reporting higher school belonging also reported greater positive affect toward school and lower negative affect toward school.

Adopting an alternative approach to examining belongingness, Grolnick and Ryan (1989) focused on the quality of relationships with significant others as an indicator of relatedness. In a sample of 3rd through 6th grade children parental involvement in the child’s life, teacher-rated competence, school grades and achievement were assessed. Positive relationships were found between maternal involvement and teacher-rated competence, adjustment, school grades, and achievement. In an extension of this work Grolnick, Ryan, and Deci (1991) found that perceived parental support for autonomy and involvement positively predicted control understanding, perceived competence, and relative autonomy which in turn
predicted teacher-rated measures of achievement. Finally, in a study of 7th and 8th grade children Ryan and colleagues (1994) found that students’ quality of relatedness to teachers and parents contributed both uniquely and positively to the prediction of indices of school functioning such as perceived control over academic outcomes, engagement, and positive coping.

This research demonstrates that a sense of belonging and the quality of relationships with adults, indicative of relatedness, are important predictors of motivationally adaptive functioning and positive experiences at school. In fact, such positive social attachments maybe critical for optimal growth and development because they provide a secure base and foundation from which children can try out challenges (Ryan & Powleson, 1991). Therefore, it is proposed that in sport similar patterns of relationships will exist. First, it is hypothesised that because sport is a social context perceived belonging will be salient to participants. Second, higher perceived belonging in sport will be associated with more positive functioning and experiences in sport such as greater interest in sport, positive affect, and desire to continue to participate.

**Individual differences in quality of social motivation: Motivational orientations**

In the social motivation model presented here, the concept of motivational orientations is adopted to differentiate between and explain individual differences in the quality of motivation individuals tend to exhibit. Maehr (1984) proposed that "meaning may be viewed as a feature of one's personality, an enduring characteristic acquired through pervious learning and experiences that tends to exhibit itself in the present" (p. 134). Individuals come to a situation with "a set of goals characterised by certain views of self and a set of behavioural options" (p. 134-135). They “do not strive for goals because they are there, rather a goal is only there when reaching it implies something desirable about the person, such as that they are competent, courageous, or tenacious” (Maehr & Nicholls, 1980, p. 235). Therefore, the goals individuals strive for are not concrete standards of excellence but rather are linked to the personal qualities individuals view as desirable. It is proposed here that this set of goals, the motivational orientation or ‘world view’ individuals bring with them to situations which provides a framework through which events are interpreted and responded to (Maehr, 1984; Duda, 1997; Dweck, 1992) can be socially oriented as well as physical ability oriented.

Examination of the literature relating to social aspects of motivation revealed that a variety of conceptualisations and operationalisations of social motivational constructs are in use (see Table 3). In sport, Ewing (1981) and Whitehead (1995) both identified a social approval goal orientation in their studies of children’s and adolescents’ definitions of success in sport. Social approval was conceptualised within Maehr and Nicholls achievement motivation theory as a universal view of success and was defined as aiming to maximise the probability of
gaining others’ approval. Grounded within Dweck’s social cognitive theory of motivation Lewthwaite and Papiro’s (1993) identified social acceptance (spend time with friends, be popular) and positive social experience (develop friendships, have fun with others) orientations in their research with gymnasts. In education and social psychology the operational definitions of the construct of social goals range from discrete social goals to general life aspirations to guiding principles.

Wentzel: Discrete social goals

In education, Wentzel (1989, 1991, 1993, 1996; 1999) focused on the content of students’ goals and identified a number of social goals including earning approval from others in the class, getting others to help you, being dependable and responsible, making and keeping friendships, and being helpful to others. She found students reported trying to achieve social goals more often than trying to achieve goals related to learning. In a similar study, this time with 6\textsuperscript{th} and 7\textsuperscript{th} grade students, Wentzel (1991) assessed academic achievement and five types of goals - two academic goals, two social responsibility goals, and one social interaction goal. With regard to the pursuit of these different goals, students reported trying to achieve social interaction goals more often than all other goals. They also reported attempting to achieve social responsibility goals and evaluation goals significantly more often than academic mastery goals. These findings should not be surprising given that school is a social as well as an achievement context. Further, school is not solely focused on teaching students academic skills, social interaction and prosocial behaviour associated with being responsible and a good citizen are also important lessons learnt at school. Sport is often seen to have similar prosocial purposes. Although it often fails to achieve these, it is generally believed that sport serves to develop citizen, a work ethic, sportspersonship and moral character (DCMS, 2000a; Martens, 1993; Weiss, 1995).

Wentzel’s research is based on the premises that goals are important central constructs in motivational theories, that people set goals, that goals can be powerful motivators, and that people pursue multiple goals. Until recently (Wentzel, 1999), however, the theoretical underpinnings of Wentzel’s approach have been somewhat vague. By incorporating social goals into models of motivation Wentzel (1999) has highlighted several important features of motivation theory. First, that goal constructs alone do not constitute a theory of motivation. Second, to be useful there is a need to explain why goals are adopted and what influence they have on cognitions, affect, and behaviours. For example, by linking goals with fundamental needs Wentzel provides an explanation for why certain goals are adopted. Her hierarchical model also addresses this point to some extent (i.e., that priorities develop over time) but fails to explain initial goal adoption. Third, Wentzel recognises the influence of situational factors
Table 3. Social goal construct conceptualisations and operational definitions.

<table>
<thead>
<tr>
<th>Citation</th>
<th>Goal Construct</th>
<th>Conceptualisation and Operational Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maehr &amp; Nicholls (1980)</td>
<td>Social approval goal</td>
<td>Goal of behaviour is to gain approval from significant others.</td>
</tr>
<tr>
<td>Ewing (1981)</td>
<td>Social approval goal orientation</td>
<td>Goal of behaviour is to gain social approval by maximising the probability of demonstrating virtuous intent.</td>
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<tr>
<td>Whitehead (1995)</td>
<td>Pleasing others goal</td>
<td>Concern with teamwork, co-operating with others, and achievement to gain others' approval.</td>
</tr>
<tr>
<td>Maehr (1984)</td>
<td>Social solidarity goal</td>
<td>Goal of behaviour is to demonstrate that one has good intentions, means well, tries hard, and in this sense is a good person. Faithfulness is more important than demonstrating competence, excelling others or simply having fun in doing something.</td>
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<tr>
<td>Maehr &amp; Braskamp (1996)</td>
<td></td>
<td></td>
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<tr>
<td>Urdan &amp; Maehr (1995)</td>
<td>Social goals</td>
<td>Why individuals are trying to achieve (academically).</td>
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<tr>
<td></td>
<td>Social approval</td>
<td>Trying to succeed academically to gain or keep the approval of others.</td>
</tr>
<tr>
<td>Urdan (1997)</td>
<td>Social solidarity</td>
<td>Trying to succeed academically to raise the esteem or status of their in-group.</td>
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<tr>
<td></td>
<td>Social compliance</td>
<td>Attempting to do well at school to be viewed as a good boy or girl.</td>
</tr>
<tr>
<td></td>
<td>Social welfare</td>
<td>Striving for academic success to benefit the larger society by becoming a productive member.</td>
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<tr>
<td>Ford (1992)</td>
<td><strong>Self-assertive relationship goals</strong></td>
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<tr>
<td></td>
<td>Individuality</td>
<td>To feel unique, special, or different; avoid similarity or conformity with others.</td>
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<tr>
<td></td>
<td>Superiority</td>
<td>To compare favourably to others by winning, gaining status, or success; avoid unfavourable comparisons.</td>
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<tr>
<td></td>
<td>Resource acquisition</td>
<td>To obtain approval, support, assistance, advice, or validation from others; avoid social disapproval or rejection.</td>
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<td></td>
<td><strong>Integrative relationship goals</strong></td>
<td></td>
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<tr>
<td></td>
<td>Belongingness</td>
<td>To build or maintain attachments or a sense of community; avoid feelings of social isolation or separateness.</td>
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<tr>
<td></td>
<td>Social responsibility</td>
<td>To keep interpersonal commitments, meet social role obligations, and conform to social and moral rules; avoid social transgressions and unethical or illegal conduct.</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
<td>To promote fairness, justice, reciprocity, or equality; avoid unfair or unjust actions.</td>
</tr>
<tr>
<td></td>
<td>Resource provision</td>
<td>To give approval, support, assistance, advice, or validation to others; avoid selfish or uncaring behaviour.</td>
</tr>
<tr>
<td></td>
<td>Prosocial</td>
<td>To help, share, and co-operate with teachers and peers.</td>
</tr>
<tr>
<td></td>
<td>Social responsibility</td>
<td>To follow rules and keep interpersonal promises and commitments.</td>
</tr>
<tr>
<td></td>
<td>Social interaction</td>
<td>To do things with peers rather than by one's self.</td>
</tr>
<tr>
<td></td>
<td>Social relationship</td>
<td>To gain approval from others, establish personal relationships with teachers or peers, co-operate with classmates.</td>
</tr>
</tbody>
</table>

*continued .......*
### Table 3 contd. ....

<table>
<thead>
<tr>
<th>Citation</th>
<th>Goal Construct</th>
<th>Conceptualisation and Operational Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dweck (1992, 1996, 1999)</td>
<td><strong>Goals</strong>&lt;br&gt;Peer-oriented goals:&lt;br&gt;- Approval/acceptance&lt;br&gt;- Relationships&lt;br&gt;- Helping peers&lt;br&gt;- Dominance&lt;br&gt;Adult-oriented goals&lt;br&gt;Personal social-moral goals</td>
<td>Superordinate classes of goals behind the particular outcome individuals strive for. The focus, concern or purpose of behaviour. To be liked and gain approval as well as avoid rejection from peers. To develop, promote, or foster relationships. To help peers or facilitate their well-being. To control or dominate others. Striving to win esteem of adults by excelling in skill areas, social areas, social-moral areas. To behave responsibly, be sensitive, and co-operative.</td>
</tr>
<tr>
<td>Erdley, et al (1997)</td>
<td>Learning social goal&lt;br&gt;Performance social goal</td>
<td>To practise and improve one's social skills. To evaluate the adequacy of one's social skills, to gain status and approval of the most popular kids or to minimise the potential for rejection.</td>
</tr>
<tr>
<td>A. Ryan, Hicks, &amp; Midgley (1997)</td>
<td>Intimacy goal&lt;br&gt;Social status goal</td>
<td>A concern with forming and maintaining positive peer relationships, desire for close and intimate friendships. A desire for social visibility and prestige within the larger peer group, evidenced through affiliation with the &quot;popular&quot; group at school, a concern image of social standing.</td>
</tr>
<tr>
<td>Kasser &amp; Ryan (1993, 1996)</td>
<td>Social recognition aspiration&lt;br&gt;Affiliation aspiration&lt;br&gt;Community feeling aspiration</td>
<td>To be famous, well-known, and admired. To have good friends, people who care about and support you, people to have fun with, and share your life with. To help or teach other people, work for the betterment of society.</td>
</tr>
<tr>
<td>Lewthwaite &amp; Piparo (1993)</td>
<td>Acceptance/affiliation goal&lt;br&gt;Positive social experiences goal</td>
<td>To spend time with friends, be popular, get along with other athletes. To develop friendships, have fun with others, be thought of as a nice person.</td>
</tr>
<tr>
<td>e.g., Passer (1982), Gill, et al (1983)</td>
<td><strong>Participation motives</strong>&lt;br&gt;Team atmosphere motives&lt;br&gt;Friendship/affiliation motives&lt;br&gt;Significant others motives&lt;br&gt;Status/recognition motives</td>
<td>Reasons why individuals participate in sport. To be part of a team, for the teamwork and team spirit. To be with and/or make new friends. Because parents want individual to, or because one likes the coach. To be popular, gain status, feel important.</td>
</tr>
</tbody>
</table>

**Note.** Constructs identified from a broad search for social goals, motives, and orientations employed in social, educational, and sport psychology literature.
on the goals individuals adopt by acknowledging the importance of knowing the content and belief systems communicated by teachers.

*Kasser and Ryan: Social life aspirations*

In a series of five studies examining life aspirations Kasser and Ryan (1993, 1996) found intrinsic and extrinsic life goals were associated differently with indices of well being and health. Of the six life aspirations Kasser and Ryan identified, two were social goals - social recognition and affiliation. They found that individuals who endorsed extrinsic life goals such as social recognition reported more negative well-being indicated by lower self-actualisation, vitality, positive affect, and more depression, narcissism, and negative physical symptoms. In contrast, endorsement of intrinsic goals such as affiliation were related to greater self-actualisation, vitality, positive affect, and less depression, negative physical symptoms and narcissism. In this research the goals were assumed to be either extrinsic if they are "typically engaged in as means to some other end" (Kasser & Ryan, 1996, p. 280) or intrinsic if they "are expressive of desires congruent with actualizing and growth tendencies natural to humans. As such, intrinsic goals are likely to satisfy basic and inherent psychological needs" (Kasser & Ryan, 1996, p. 280). The distinction made between intrinsic and extrinsic life goals and the associated patterns of thoughts and feelings has parallels with research in sport examining correlates of task and ego goal orientations. The focus of these life aspirations, however, were social. This provides further evidence that social motivation can provide a useful contribution to understanding motivation.

*Dweck: Social goals as part of a self-system*

Similar to Maehr and Nicholls' (1980) concept of goal orientations that were adopted by Ewing (1981) and Whitehead (1992, 1995), Dweck viewed goals as concepts that encompass the purpose of activity (Dweck, 1996, 1999; Dweck & Elliot, 1983; Dweck & Leggett, 1988). She viewed goals as "superordinate classes of goals that are behind the particular outcome individuals strive for" (1992, p. 165). Dweck proposed two classes of goals, learning and performance, similar to Nicholls' task and ego goal orientations, could be used to describe the focus or concerns individuals had in achievement contexts. Although Dweck's approach has not found its way into sport research (see Sarrazin, et al, 1996 for an exception), a substantial body of empirical evidence has been generated that supports the tenets of Dweck's theory in the education domain (see Dweck, 1999 for a review). Dweck and colleagues' research has predominantly focused on intellectual ability goals, however there is also empirical support for aspects of Dweck's theory in the social domain where the learning and performance goals are related to social skills rather than intellectual ability (e.g., Goetz & Dweck, 1980).
In addition to learning and performance goals, Dweck has recently identified additional classes of goals including some social goals that may be relevant to understanding motivation (Dweck, 1996). The list of goals now includes classes of goals such as skill-related goals, extrinsic reasons, peer-oriented goals, personal social-moral goals, instrumental goals, and adult-oriented goals as purposes of activity central to motivation. Although Dweck has identified a number of different types of goals, which include social goals, the important feature with regard to explaining outcomes may be whether these goals reflect an incremental or entity view of the target attribute. For example, peer-oriented approval goals may lead to different motivational consequences depending on the extent to which the individuals believe their likability, acceptance, approval can be changed. Children who believe there is little they can do to change whether their team mates like or approve of them (i.e., an entity view) may be more likely to be concerned with and pursue goals that demonstrate that they are liked or approved. In contrast, children who believe that approval or likability is something that develops and grows (i.e., incremental view) may be more likely to focus on being in and fostering relationships with their team mates for their own sake rather than to demonstrate their acceptance by the team. Exactly how these goals fit into Dweck's theory of motivation has not been made clear and is awaiting further theoretical and empirical investigation. As illustrated in the examples above it is possible that what is important in terms of understanding motivation is not the goals themselves but the implicit theories that underpin them.

Dykman: An extension of Dweck's goals

While Dweck focused on competence as the defining feature of different types of goals, Dykman (1998) adopted a broader view. He expanded Dweck's (Dweck & Leggett, 1988; Dweck, 1999) learning versus performance goal distinction beyond academic achievement generating two goal orientations applicable to everyday life. The first orientation was a validation seeking goal, analogous to Dweck's performance goal. The validation seeking goal reflected an orientation towards establishing or demonstrating one's basic worth, competence, and likability. The second orientation, a growth seeking goal, was analogous to Dweck's learning goal where the orientation was towards self-improvement, growth as a person, and development of one's capacities. Dykman proposed and tested an association between individuals' tendency to seek validation of their worth or to seek to develop themselves and their responses to an anticipated stressful or negative events. He found a pattern of predictions between the orientations and psychological variables such as anxiety, social anxiety, fear of failure, and coping that was consistent with tenets of Dweck's theory and previous findings. Specifically, individuals who were validation-oriented, who felt they had to continually validate who they are were more likely to exhibit greater anxiety in anticipation of a stressful event and greater self-esteem loss, task disengagement, and depression after a
negative event compared with individuals who were growth-oriented and were focused on personal growth and development.

Dykman's research demonstrated support for qualitatively different patterns of cognitions, affect, and behaviour underpinned motivational orientations which included a social aspect. He also made an explicit association between motivation and self-worth. Dykman's approach, however, is not without limitations. Specifically, within the inventory developed to assess the goal orientations there is extensive overlap among the 36 items suggesting a number of items maybe redundant. More importantly, however, many of the items contain several components such as competence, likability, and worth. For example, in the item "I feel as though my basic worth, competence, and likability are 'on the line' in many situations I find myself in" respondents are asked to indicate how this item describes how they usually think and act. Worth, competence, and likability are distinct areas of one's life and individuals may have varying degrees of concern over them. Further, combining the areas in this way does not allow researchers to examine the unique and/or relative contributions of each of the areas to understanding individuals' motivation and their patterns of thoughts, feelings, and actions.

*Urdan and Maehr: Social goals as purposes of achievement in education*

Urdan and Maehr (1995) also adopted Dweck's (Dweck, 1992; Dweck & Leggett, 1988) view of social goal constructs as classes of goals that reflect the purpose of activity and provided a framework through which events are interpreted and responded to. They limited their focus to delineating social academic goals and the implications of social goal pursuit for achievement-related beliefs and behaviours in academic situations. Four types of social goals were identified: social approval - trying to succeed academically in order to gain or keep the approval others; social solidarity – trying to succeed academically to raise the esteem or status of their in-group; social compliance – attempting to do well at school in order to be viewed as a good girl or boy; social welfare – striving for academic success to benefit the larger society by becoming a productive member. Due to the variety of social goals identified Urdan and Maehr noted that, unlike task and ego goal orientations, "it is not possible to define generally the effect of pursuing social goals" (p. 226). Rather, Urdan and Maehr identified factors such as the type of goal orientation activated, values of significant others, and the co-ordination with other goals that will affect the outcomes associated with social goal pursuit. To date, Urdan and Maehr's conceptualisations await empirical support in any domain. It is, however, important to note that their conception of social goals is a narrow one. That is, they conceptualised social goals in terms of the purposes of trying to achieve academically. If such a conceptualisation were directly translated into sport researchers would again be focusing on the physical side of sport, the social purposes for physical achievement. This view does not take into account the broad range of social goals that may exist in and be unique to sport such
as an affiliative goal which may have nothing to do with physical achievement or the demonstration of physical ability.

**Anderman: Social goals as guiding principles**

One of the few developed lines of research incorporating social goal constructs comes from a series of recently published studies in education by Anderman and colleagues. These researchers have adopted achievement goal theory frameworks and examined relationships between social goal pursuit and self-efficacy for academic work (Patrick, et al, 1997), avoiding seeking help in the classroom (A. Ryan, et al, 1997), positive and negative affect and changes in academic goal orientations following transition to middle school (Anderman, 1999; Anderman & Anderman, 1999). This research has focused on three types of social goals. A social responsibility goal where adherence to social rules and role expectations are the primary concern. An intimate peer relationship goal where the focus is on forming and maintaining intimate social relationships with peers. A social status goal where the focus is on "a desire for social visibility and prestige within the larger peer group, as evidenced through affiliation with the 'popular' group at school" (A. Ryan, et al, 1997; p. 155).

These researchers report conceptualising social goals consistent with achievement goal theories. For example, Patrick, et al (1997) suggested their conceptualisation of social goals was “in keeping with achievement goal theories as aims, intentions, and purposes that guide students’ cognitions, affect and behaviour” (p. 112-113). A. Ryan, et al (1997) also viewed goals as “the purpose and meaning that an individual assigns a given action” (p. 153). Whether these researchers have measured dispositional goal orientations as opposed to more discrete goals is unclear. For example, A. Ryan et al's conceptualisation of social goals emphasised the meaning assigned to a given act which suggests a situation-specific goal rather than a relatively stable orientation. Further, with regard to the definition of the social responsibility goal Patrick et al, (1997), Anderman (1999), and Anderman and Anderman (1999) all employed Wentzel's (1991) conceptualisation of this goal. Wentzel focused on the content of goals viewing them as what the individual is trying to do not as a relatively stable general dispositions or worldviews through which events are interpreted and responded to. Finally, the psychometric properties of the instruments developed to assess these social goals have not been documented. At least one of the sub scales has exhibited questionable reliability and for this reason further research to validate these scales would be valuable.

**Social goals: Clarifying conceptual confusion**

The research to date on social motivational goal constructs provides a useful beginning to social motivation research, however, as a body of literature it demonstrates a lack of conceptual clarity with regard to social motivational goal constructs. At the heart of this lack of conceptual clarity may the use of the term 'goal'. The term 'goal' has been used to refer to
all these constructs and yet researchers are often not referring to the same level of construct. Given the frequent use of the term 'goal' and recent confusion (and debate) in sport psychology surrounding goal constructs (e.g., Duda, 1997; Hardy, 1997; Harwood, Hardy, & Swain, 2000; Treasure, et al, in press) it is important to distinguish between goal constructs conceptualised at different levels and therefore clarify the concept of social goal constructs adopted here.

Goal constructs, in general, have been conceptualised within at least two theoretical frameworks (Duda, 1997; Hall & Kerr, 2001; Ryan, Sheldon, Kasser, & Deci, 1996). One is perhaps best characterised by Locke and Latham's (1990) goal setting theory. This theory is characterised as a first level theory, mechanistic theory. It focuses on the association between goals and performance and has proved useful for researchers interested in performance issues, particularly in the work place (see Locke, 1991, 1994; Weinberg & Weigand, 1993, 1996 for discussion on this topic). Within goal setting theory goals are viewed as discrete objectives and the content of the goal is the important element. Discrete goals represent the direction of behaviour, what the individual is trying to do. Such a conceptualisation of goals allows for any number of goals including social goals. With regard to social goals, Wentzel's approach (e.g., Wentzel, 1989, 1991, 1999) provides an example of a discrete goals approach. She focused on what individuals were trying to achieve at school.

Theories, however, that hold discrete goals as central lack explanation of the mechanisms underlying goal adoption (Hall & Kerr, 2001; Ryan, et al, 1996). Although such theories "examine how one can efficaciously pursue goals, they typically ignore why one pursues particular goals and/or the significance of what specific goals are pursued" (Ryan et al, 1996, p. 7). These approaches ignore the motives, dispositions, and human needs that energise behaviour. In fact, it could be argued that because these theories only address the direction of behaviour they are not true theories of motivation. That is, a theory of motivation should address the direction, energisation, and regulation of behaviour (Atkinson, 1964; Deci, 1992; Ford, 1992; Roberts, 2001).

In contrast, theories of motivation such as achievement motivation theory (Maehr, 1984; Maehr & Nicholls, 1980), achievement goal theory (Nicholls, 1984, 1989), Dweck and Leggett's (1988) social cognitive approach to motivation, and the social motivation model presented in this paper are second or higher order theories. These theories emphasise 'the why' behind behaviour. Goal constructs, generally (but not exclusively) referred to as goal orientations or motivational orientations, reflect this focus on why the individual is trying to do what they are doing, and how success and failure are defined. Within these theories goal constructs are viewed as orientations. They are relatively stable dispositions or tendencies individuals 'bring with them' to situations that provide a framework through which events are interpreted and responded to (Duda, 1997; Dweck & Leggett, 1988). They are "a higher level,
more superordinate class of goals that are behind the particular outcomes individuals strive for" (Dweck, 1992, p. 165).

Common to perspectives on motivation centring on motivational orientations is that the meaning of the situation, rather than the behaviour itself, is viewed as central to understanding motivation. As Maehr & Nicholls put it "people do not strive for goals because the goals are there, rather a goal is only there when reaching it implies something desirable about the person, such as that they are competent, courageous, or tenacious" (1980, p. 235). They are not concrete standards of excellence (cf. discrete goals) but rather they are linked to the personal qualities individuals view as desirable. They are goal or motivational orientations not specific discrete goals.

The way in which goals are conceptualised and operationalised has implications for measurement but more importantly for the predictions and explanations forwarded regarding the psychological processes underpinning motivation. If researchers are to move beyond a superficial and descriptive understanding of behaviour in sport an understanding of why certain discrete goals are adopted will be need to be established. This is where concepts such as social motivational orientations are useful because they provide an explanation of the energising, directing, and regulating processes that comprise social motivation.

In the social motivation model presented here the concept of motivational orientations, specifically social motivational orientations, has been adopted. Social motivational orientations are conceptualised as relatively stable dispositions through which events are interpreted and responded to. Two types of social orientations are proposed and their development is intimately linked to the psychological need for belonging. For many individuals sport participation is intrinsically motivated, that is they participate for the inherent pleasures in the activity, whether social or physical ability related. This, however, may not be the case for all individuals. Ryan and colleagues (1995) suggested that "in adapting to the demands of the social world, individuals must at times engage in activities that are not interesting to them but are socially valued or mandated. A central motive that helps to initiate and maintain much of this nonintrinsically motivated action is the need for social connections. Put differently, people often engage in activities that do not interest them, in order to maintain or strengthen their connection with others." (Ryan, et al, 1995, p. 620). For example, an individual new to town may join a fitness club not so much to get physically fitter but because going to the gym provides an opportunity to meet people in the community.

The need for belonging, however, can make individuals vulnerable to the external controls of others. This may be particularly true for children and adolescents who are just discovering who they are and their place in the world (Goodenow, 1993a). This is not to suggest that individuals simply conform to external controls in order to feel connected with others. Rather in the course of development individuals transform social controls into inner
regulations. Developing more self-determined regulation of behaviour and a more internal integrated motivational orientation (Ryan et al., 1995). Harter (1978) also implicated significant others in the development of motivational orientations proposing that the values and reinforcements of significant others shape the motivational orientation that becomes children's major determinant of behaviour. Therefore, an explanation is provided for how qualitatively different forms of motivation or social motivational orientations are developed.

Belonging not only provides the impetus for social behaviours but also provides the basis for two qualitatively different forms of motivation or motivational orientations. It is proposed here that significant others shape how belonging is construed and this forms the basis of two qualitatively different social motivational orientations. Belonging can be viewed as being popular, having high social status, being recognised and approved of by significant others. Individuals with this focus are concerned with gaining validation of one's sense of self from others through their engagement in sport and this concern forms the basis of a social validation motivational orientation. In contrast, belonging can also be construed as being accepted for who one is, respected, as part of mutual and reciprocal relationships. Individuals with this focus are less concerned with reaffirming who they are through sport involvement and more interested in developing and maintaining reciprocal interpersonal relationships. These individuals are affiliation oriented. These views of belonging or orientations are expected to lead to different focuses in social situations, that is a focus on gaining something from others and a focus on being in relationships, respectively.

Support for these two social motivational orientations is evident in the limited research to date. Relationship goals (Anderman, 1999; Anderman & Anderman, 1999; Patrick, et al., 1997; A. Ryan, et al., 1997), social solidarity goals (Urdan & Maehr, 1995), and positive social experience goals (Lewthwaite & Papiro, 1993) reflect an affiliation orientation. Individuals pursuing these goals are oriented toward engaging in sporting contexts for the pleasure and enjoyment inherent in the social interactions sport provides. For these individuals engaging in sport is seen as engaging in a social as well as, or even instead of, a physical activity. The social activity inherent in sport is seen as an end in itself. Sport is an opportunity for social interaction and these individuals feel good about their involvement in sport when they are developing and/or maintaining mutual relationships, a sense of belonging. The activity itself (i.e., social interaction) is valued for its contribution to belonging not just the physical outcomes. Evidence to support this view in a physical activity context comes from a study of Hawaiian and Anglo-American exercise participants. Hayashi (1996) found that positive, negative, and success experiences were defined through affiliation. That is, positive and success experiences in the weight room were characterised by camaraderie, sharing experiences, being part of a group. Unsuccessful experiences were characterised by a lack of a
sense of affiliation. One participant stated "[I feel unsuccessful when I do] not feel like I've bonded with any of the other people in the group" (p. 205).

In contrast, goals such as social approval (Ewing, 1981; Urdan & Maehr, 1995; Whitehead, 1995), social acceptance (Lewthwaite & Papiro, 1993), and social status (Anderman, 1999; Anderman & Anderman, 1999; A. Ryan, et al, 1997) reflect a social validation oriented focus. These individuals are oriented toward the potential social gains sport involvement can provide such as gains in social status, peer acceptance, significant other approval, social recognition and even the avoidance of disapproval or rejection by significant others. The meaning of the activity lies in what sport can do for individuals' social relations and one's sense of self. These individuals are concerned with others' perceptions and evaluation of their involvement in sport. Participation in sport is seen as instrumental in obtaining something separable from the activity - social validation of one's self. The value and meaning of the sport is in what it can do for the individual and what it says about the individual as a person. Therefore, others' evaluations are salient and impinge on individuals' feelings of self-worth.

Not only are two distinct social orientations apparent from research to date, there is also preliminary support from education research for differential motivational outcomes associated with these two types of orientations. Social goals concerned with the development of social relations and social responsibility have been related to adaptive motivational patterns such as self-efficacy for academic work, help-seeking behaviour, and positive affect toward school. In contrast, goals concerned with social status have been related to less adaptive and more negative patterns such as avoiding seeking help and negative affect toward school (Anderman, 1999; Anderman & Anderman, 1999; Erdley, et al, 1997; Goetz & Dweck, 1980; Patrick, et al, 1997; A. Ryan, et al, 1997). For example, A. Ryan et al (1997) found that 5th grade students who endorsed relationship goals were more likely to seek help with their schoolwork when it was needed compared with students less concerned about relationship goals. In contrast, endorsement of social status goals was associated with greater avoidance of help seeking and greater perceived threat associated with seeking help. This research demonstrates that academic achievement-related behaviours, perceptions, and affective experiences at school are predicted by social goals. Further, although emphasising social competence rather than belonging, Goetz and Dweck (1980) found that when children focused on practising and improving their social skills (i.e., a learning goal) they displayed a more adaptive, mastery-oriented response to rejection than when the focus was on evaluating their social skills (i.e., performance goal).

Given the similarities in findings between education and sport with regard to motivational correlates of other types of goal orientations (e.g., see Duda & Whitehead, 1998; Dweck, 1999; Nicholls, 1989 for reviews), similar relationships to those found in education
may be hypothesised and empirically examined between social goals and indices of motivation in sport such as sport interest, enjoyment, satisfaction, and anxiety. For example, children oriented toward the affiliation opportunities in sport (i.e., developing friendships) may persist in sport even if they are not consistently playing as long as they feel they are part of the team or developing friends in the group. This is because playing sport is less important than the opportunity to meet people and develop or maintain friendships. Children who are oriented towards demonstrating social standing might be expected to experience greater worry and anxiety in socially evaluative situations such as sport, particularly if they perceive social status on the team is related to consistent playing time. The negative affective reactions to socially evaluative situations may be due to a perceived threat to their sense of belonging in the team.

In addition to the emphasis of each motivational orientation, a critical feature of social motivational orientations, as conceptualised here, is that they are dispositions. They are hypothesised to be relatively stable across domains. That is, similar orientations are expected in domains such as sport and education. Despite a relatively large volume of research examining correlates of task and ego goal orientations in sport, only one study has examined the cross domain stability of these motivational orientations. In their study with high school students, Duda and Nicholls (1992) assessed students’ task and ego goal orientations toward schoolwork and sport. In an exploratory factor analysis of both school and sport data they found that the task items from school and sport factored together and the ego items from both domains also factored together but separately from the task items. Further, cross domain correlations between orientations were moderately high (task \( r = .67 \), ego \( r = .62 \)). These correlations were significantly higher than cross domain correlations between other variables that were expected to be less stable across domains such as perceived ability (\( r = .32 \)), intrinsic interest (\( r = .15 \)), and boredom (\( r = .01 \)). Duda and Nicholls’ research provided evidence to support the cross domain stability of achievement orientations. In the future, more rigorous methods of assessing cross domain stability such as multiple group confirmatory factor analysis would provide additional support for the cross domain stability of motivational orientations.

In summary, the psychological need for belonging provides the basis for two general social motivational orientations and these orientations can explain individuals’ qualitatively different functioning in social situations such as sport. That is, their general disposition or tendency to focus on certain aspects of the situation, either the potential for development of mutual relationships or demonstration of social standing and validation of one’s self. It is proposed, however, that this relationship between motivational orientations and motivational consequences is mediated by individuals’ perceptions of sport belonging.
The mediating role of self-perceptions: Perceived belonging

In the model of social motivation the meaning of the situation is hypothesised to be related to the need, innate or developed through life experiences, for belongingness. That is, a desire for social connections with significant others provides the impetus for behaviour in social contexts such as sport. The central construct, however, is perceived belonging. The extent to which individuals feel they have developed or are developing desired relationships with significant others. That is, the extent to which they feel they belong, are accepted, respected, and included by significant others (Goodenow, 1993a).

The motivational implications of perceptions of belonging are evident in findings from research in education. Specifically, children reporting a greater sense of belonging at school compared with those children with lower perceived school belonging reported that they valued schoolwork more, had a greater sense of academic self-efficacy, greater expectations of school success, and more positive affect toward school. Their effort was rated higher by teachers, they attained higher actual achievement, and were more likely to choose to stay in their current school when they had an opportunity to transfer schools in the following year. In contrast, children reporting a lower sense of school belonging had a greater number of absences from school, were more likely to be late for school, reported greater negative affect and reported being more self-conscious at school (Anderman, 1999; Goodenow, 1993a, 1993b; Roeser, et al., 1996).

Not only does perceived belonging appear to be an important predictor of social consequences in schools, it also appears to be an important factor underpinning academic achievement behaviours. Positive social attachments maybe critical for optimal growth and development because they provide a secure base from which children can try out challenges in school (Ryan & Powleson, 1991). A similar argument can be made for sport. That is, a secure sense of belonging may provide the platform from which children and adolescents feel comfortable enough to pursue the challenges, physical and social, they face in their sport participation. Secure social bonds may provide the basis from which children feel able to take risks and face the potential of making mistakes without perceiving their behaviours will jeopardise their relationships with significant others.

Perceived belonging is not just related in a consistent and predictable manner to children's and adolescents' thoughts, feelings, and actions in sport. It is proposed here that perceived belonging mediates the relationship between individual difference factors (i.e., social motivational orientations) and the outcomes of the motivational process such as sport interest, enjoyment, anxiety, and persistence. Specifically, the patterns of cognition, affect, and behaviour are dependent upon individuals' orientations and perceptions of the extent to which they perceive they are developing, maintaining, and/or demonstrating social connections with significant others. As education research has shown, individuals who feel they belong are
likely to have positive experiences and display motivationally adaptive functioning whereas individuals who do not feel a sense of belonging are likely to have less positive experiences and demonstrate less adaptive functioning. To date however, researchers have appeared satisfied with establishing such relationships among social motivational constructs and thoughts, actions, and feelings. They have not begun to speculate about or explore the potential psychological processes and mechanisms that lead to these outcomes. One direction for this exploration is by examining the role of perceived belonging in the process. Attempting to discover whether it acts as a moderator or mediator between social motivational orientations and outcomes or is simply another correlate of these outcomes.

It is proposed here that perceived belonging is not simply another correlate of motivational outcomes in sport but rather that it mediates, changes, the relationship between orientations and outcomes. This mediational role of perceived belonging is due to the way in which belonging is construed and the criteria employed to evaluate belonging. For example, because validation oriented individuals are seeking approval, acceptance, or recognition from others they see belonging as contingent on gaining this approval or some level of social standing which in turn may be contingent on what they do. Therefore, a positive sense of belonging may be out of their control and in the hands of those whom are perceived to be evaluating the individual and their behaviours. Further, because belonging says something about one's self, not only is their sense of belonging out of their control but so too is their self-worth. In contrast, because affiliation oriented individuals focus on the development of reciprocal relationships they are likely to view belonging in terms of being liked or accepted for who they are and less for what they do. They are interested in personal development and belonging is not as closely associated with their sense of self-worth. Social situations are not an evaluation of who one is a person. For validation compared with affiliation oriented individuals, perceived belonging is more tenuous and the pattern of motivational consequences are likely to reflect this. When things are going well, they are gaining approval, obtaining or maintaining desired status, they perceive they belong. These individuals are likely to enjoy their sport experience and desire to stay involved. However, when they perceive they do not belong, or doubt their attachments with significant others, they are likely to have a less positive experience in sport such as experiencing anxiety in evaluative situations such as sport performance, become focused on social outcomes at the expense of physical performance, and even prefer to withdraw from the situation (i.e., dropout) rather than face the implications of being a social outcast.
Summary

In summary, the social motivation model provides researchers with a theoretically based framework to examine the unique contribution social meaning plays in youth sport motivation. It provides researchers with a basis from which the psychological processes underlying motivation in youth sport can be explored and developed. This development will lead to a greater understanding of the youth sport experience. Such progress, however, can only be made if the propositions forwarded in this model are empirically tested and modified to further develop the model.

Research hypotheses

To begin to test the propositions forwarded in the social motivation model psychometrically valid measures of the central constructs (i.e., social motivational orientations and perceptions of belonging) that were specific to sport needed to be established. Therefore, the hypotheses for the social motivation measurement development, validation, and social motivation model validation were:

1. Social motivational orientations.
   (a) Two qualitatively different forms of social motivational orientations for sport will be salient to adolescents. A social affiliation orientation will emphasise affiliation opportunities and the development of reciprocal relationships through sport. A social validation orientation will emphasise gaining recognition and social status through sport. These orientations will be empirically distinguishable from each other and demonstrate acceptable psychometric properties.
   (b) Motivational orientations were conceptualised as dispositions that are relatively stable across domains. To test this proposition it was hypothesised that the factor structure of the scales developed to assess social motivational orientations would be the same for both sport and education contexts.

2. Perceived belonging.
   (a) It was hypothesised that the measure perceived belonging adapted from education research would demonstrate acceptable psychometric properties and discriminate between levels of sport participation. Specifically, adolescents' who report involvement in a greater number of sports will report a greater sense of belonging in sport compared with individuals reporting lower sport involvement.

   (a) The proposed social motivation model will demonstrate acceptable fit to the sport data from a sample of adolescents.
(b) Social motivational constructs (i.e., social affiliation orientation, social validation orientation, perceived belonging) will be significant predictors of adolescents' interest/enjoyment in sport.

(c) The relationship between social motivational orientations and interest/enjoyment in sport will be mediated by perceived belonging.

(d) The pattern of relationships among social motivational constructs in sport will hold in an education setting.

In the following chapters the methods, results, and a discussion of the findings of this investigation are presented. The methods adopted are described in Chapter 4 and apply to both measurement development and model testing phases. For the purposes of clarity, however, the results of the measurement development and path model testing phases are presented in separate chapters (i.e., Chapter 5 and 6 respectively). Finally, in Chapter 7, I provide a discussion of the two phases of the investigation as well as a discussion of the conceptual and practical implications of the investigation.
CHAPTER 4: METHOD

In the previous chapter, I outlined a proposed theoretical framework for examining social motivation in youth sport. It was argued that for youth sport participants sport has social as well as physical achievement meaning. Further, individuals' quality of social motivation could be captured by a limited number of social motivational orientations and that perceptions of belonging in sport would mediate the relationship between these orientations and sporting outcomes such as interest and enjoyment. Finally, it was hypothesised that propositions forwarded in the model should hold across domains such as sport and education. This chapter outlines the sample of participants employed in this investigation, the measures selected to capture the central constructs of the proposed model, the research procedures, design, analyses, and assessment of reliability, validity, and model fit employed in the investigation.

Participants

The sample comprised 348 (225 female and 123 male) students from 2 high schools in the Midlands Region of the United Kingdom. Participants ranged in age from 13 to 17 years ($M = 14.11, SD = .80$). One of the schools was coeducational and served students from middle socioeconomic backgrounds. The second school was an all girls school serving students of middle to high socioeconomic backgrounds. So as to gain a sample roughly representative of all students in this age range at each school, students were not specifically selected for their involvement in sport. Length of participation in organised sport, which was defined generally as a sport that had scheduled competitions and practices, ranged from never having participated to 13 years ($M = 5.28, SD = 2.83$). Of the sample 87% had participated in at least one organised sport for one year or more. Approximately one quarter (26%) of the adolescents had participated in three or more sports for at least one year. Only 9% reported having never participated in an organised sport and 5% did not report their participation. However, all participants engaged in regularly scheduled school physical education classes and therefore had some experience of sport. To provide calibration and validation samples for each phase of the analysis the sample was randomly split into two sub samples. This procedure was repeated to provide four sub samples each containing approximately 50% of the participants. Drawing random sub samples from a larger pool was considered tantamount to dealing with different data sets. As Hedayat and Sinha (1991) suggest two samples (or sub samples in this case) are only identical if they are equal in terms of factors such as the same participants, same order of participants otherwise they may be considered different. The SPSS procedure used to select the sub samples used a different starting point in the list of participants for each selection, therefore, it can be assumed that the sub samples were different and distinct. In phase one
analyses, sub samples A and B were employed as calibration and validation samples, respectively. In phase two, sub samples X and Y comprised the calibration and validation samples, respectively.

Measures

Social motivational orientations scale for sport (SMOSS)

Based on a review of the motivational and social motivational research a pool of 50 items reflecting two social motivational orientations was generated. One orientation reflected an emphasis on affiliation with items describing a focus on developing reciprocal relationships and positive social experiences. The second orientation reflected an emphasis on social validation with items focusing on recognition from others and social status. The pool of items were reviewed by a panel of five sport psychology experts for consistency with conceptual definitions, clarity of wording, and suitability for assessing each orientation and discriminating between them. Panellists were also encouraged to add additional items they felt reflected the orientations. Based on these evaluations changes were made to some of the items, ambiguous and redundant items were deleted, and a pool of 20 items was established. For example, 'I receive recognition or prestige from others' could have been interpreted differently due to the two different adjectives being included in one statement. Further, there was no subject to the sentence, that is, for what does one receive recognition for. To make the item more specific it was changed to 'I receive recognition from others for my accomplishments'. An initial version of the SMOSS was developed in which respondents were asked to think about when they felt that things have gone well for them in their sport. The word 'successful', common in physical achievement motivation orientation scales, was deliberately avoided to encourage participants to think broadly about their experiences in sport and not solely on physical achievements. Participants indicated their degree of agreement with each of the items on the scale on a 5 point Likert-type scale (1 strongly disagree to 5 strongly agree). Further, due to an interest in assessing general motivational orientations respondents were asked to think about sport in general rather than specific levels (e.g., school, regional) or types (e.g., individual, team) of sport.

The 20-item version of the SMOSS was then pilot tested with a group of 12 teenagers. Participants were also asked to comment on any aspects of the questionnaire that they found difficult or confusing. Based on the responses and comments of the participants the questionnaire was reduced to 15 items and several items were reworded to improve clarity. For example, the item "I laugh and talk with my teammates" was reworded to read "My teammates and I have a laugh together". This rewording gave the item a more specific focus and avoided possible confusion over the use of two terms (i.e., talk and laugh) that might be interpreted differently from each other and reduce the clarity of responses. The 15-item SMOSS assessed
participants’ degree of social affiliation orientation (7 items) and social validation orientation (8 items) toward sport. The items are presented in Table 4.

Table 4. The 15-item Social Motivational Orientations Scale for Sport (SMOSS).

<table>
<thead>
<tr>
<th>I feel things have gone well in my sport when...</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Others tell me I have performed well</td>
</tr>
<tr>
<td>2. I make some good friends on the team</td>
</tr>
<tr>
<td>3. I belong to the popular group in the team</td>
</tr>
<tr>
<td>4. My teammates and I have a laugh together</td>
</tr>
<tr>
<td>5. I am the centre of attention</td>
</tr>
<tr>
<td>6. I make new friends who I socialise with outside sport</td>
</tr>
<tr>
<td>7. I have fun with the others on my team</td>
</tr>
<tr>
<td>8. I am part of the 'in' crowd</td>
</tr>
<tr>
<td>9. Other kids think I'm really good at sport</td>
</tr>
<tr>
<td>10. I receive recognition from others for my accomplishments</td>
</tr>
<tr>
<td>11. Spending time with the other players is enjoyable</td>
</tr>
<tr>
<td>12. I become friends with some of the others in my sport</td>
</tr>
<tr>
<td>13. Others are impressed by my sporting ability</td>
</tr>
<tr>
<td>14. I am one of the more popular players</td>
</tr>
<tr>
<td>15. Just hanging out with the others is fun</td>
</tr>
</tbody>
</table>

Social motivational orientations scale for education (SMOSE)

In order to test the relatively stability across domains of social motivational orientations a parallel measure of social motivational orientations was developed for education (SMOSE) (see Table 5). The 15-item SMOSE assessed participants’ degree of social affiliation and social validation motivational orientations toward school. Seven items reflected an affiliation orientation and eight items reflected a social validation orientation. Participants responded to the statement “I feel things have gone really well for me at school when...” by indicating the extent to which they agreed with each of the 15 items on a 5 point Likert scale (1 strongly disagree to 5 strongly agree).
Table 5. The 15-item Social Motivational Orientations Scale for Education (SMOSE).

<table>
<thead>
<tr>
<th>I feel things have gone well at school when.......</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Others tell me I have done well</td>
</tr>
<tr>
<td>2. I make some good friends at school</td>
</tr>
<tr>
<td>3. I belong to the popular group in the school</td>
</tr>
<tr>
<td>4. My classmates and I have a laugh together</td>
</tr>
<tr>
<td>5. I am the centre attention</td>
</tr>
<tr>
<td>6. I make new friends who I socialise with outside school</td>
</tr>
<tr>
<td>7. I have fun with the others in my class</td>
</tr>
<tr>
<td>8. I am part of the 'in' crowd</td>
</tr>
<tr>
<td>9. Other kids think I'm really good at schoolwork</td>
</tr>
<tr>
<td>10. I receive recognition from others for my accomplishments</td>
</tr>
<tr>
<td>11. Spending time with the other pupils is enjoyable</td>
</tr>
<tr>
<td>12. I become friends with some of the others in my class</td>
</tr>
<tr>
<td>13. Others are impressed by my academic ability</td>
</tr>
<tr>
<td>14. I am one of the more popular students</td>
</tr>
<tr>
<td>15. Just hanging out with other kids is fun</td>
</tr>
</tbody>
</table>

**Perceived belonging scale (PBS)**

Participants' perceptions of belongingness in sport were assessed using a modified version of the psychological sense of school membership scale (PSSM) (Goodenow, 1993a). The original 18-item PSSM scale was designed to measure adolescent students' perceived belonging or psychological membership in the school environment. Evidence of validity and reliability of the scale in education settings has been provided through previous research (see Goodenow, 1993a). Modified and shortened versions of this scale have been employed in subsequent education research and these adapted scales have also demonstrated acceptable reliability (i.e., coefficient alphas > .70) (e.g., Anderman, 1999; Anderman & Anderman, 1999; Roeser et al, 1996). For the purpose of the present investigation the PSSM was modified to reflect general perceptions of belonging in the sporting context. The wording of several items was changed to reflect terms and situations prevalent in sport. For example, the item "I feel like a real part of (name of school)" was modified to read "I feel like a part of my team" and the item "Other students in this school take my opinions seriously" was modified to read "Other players in my team take my opinions seriously". In addition, items were dropped from the scale if they did not appear relevant to a sense of belonging in the sport domain or it was felt they reflected social motivational orientations. For example, the item "There's at least one
teacher or other adult in this school I can talk to if I have a problem” was dropped because it was judged not to reflect the sense of being part of a sports group, experiencing a sense of attachment to the sport context. The item "People here notice when I'm good at something" was dropped because it was similar to items on the social validation orientation scale and therefore would not allow differentiation between the two constructs. The final scale contained 11-items (see Table 6).

Table 6. The 11-item Perceived Belonging in Sport Scale (PBS).

- 1. I feel like a part of my team
- 2. Other players in my team take my opinions seriously
- 3. Sometimes I feel like I don't belong
- 4. The coach respects me
- 5. I am included in lots of the team activities
- 6. I wish I were on a different team
- 7. The coach is not interested in people like me
- 8. I can really be myself on this team
- 9. Other players here like me the way I am
- 10. I feel very different from most of the others
- 11. People in my team are friendly to me

In completing the perceived belonging scale participants were asked to think about all the people involved in their sport such as their teammates, training group, coach, officials, supporters, and even fellow competitors. Drawing participants attention to the wider social connections in sport was believed to be important for two reasons. First, this meant the measure was applicable to all sport participants not just those involved in team sports. Second, it enabled assessment of a general view of sport belonging rather than just assessing a sense of team membership. In response to the question: How do you feel about being in your sport? participants indicated the extent to which each item was true for them on a 5-point Likert-type scale ranging from 1 (Not at all true for me) to 5 (Completely true for me). As with Goodenow's original measure several of the items were reversed to avoid participants developing a response set. To assess perceived belonging in school participants' responded to 11 items from Goodenow's original scale which paralleled the sport items. As with the sport version participants indicated the extent to which each item was true for them on a 5 point Likert type scale ranging from 1 (Not at all true for me) to 5 (Completely true for me).
**Interest/enjoyment**

To test the predictive validity of the social motivation model the extent to which adolescents genuinely engaged in and enjoyed activities during their sport involvement was assessed with 4 items from the intrinsic interest scale (Duda & Nicholls, 1992). Participants responded The interest/enjoyment sub scale reflected how time flies while participating, and participation is enjoyable. Evidence of validity and reliability have been provided in research in sport and education settings (Duda & Nicholls, 1992). To assess interest/enjoyment at school Duda and Nicholls' education version of these 4 items were used. Again participants responded to all items on a 5-point Likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

**Procedure**

The head teachers of the two schools were contacted, the purpose of the study explained, and permission obtained to proceed with the study. One teacher in each school was identified as a point of contact and the purpose of the study explained. These teachers then assisted in identifying suitable class groups and initial contact with the teachers of these classes. The identified teachers were then contacted, the purpose of the study explained and their involvement gained. A letter was sent home to inform the children's parents of the study. Parental consent was gained as well as each child's assent to participate. The questionnaire was administered in class settings by Justine Allen or a trained teacher. Participants anonymously indicated their response on the questionnaire which took approximately 20 to 30 minutes to complete. The order of sport and education focused questions were counterbalanced to reduce order effects influencing participants' responses. Copies of the consent and assent forms employed in this investigation are presented in Appendices A, B, & C. A copy of the questionnaire employed in this investigation is presented in Appendix D.

**Design and strategy**

A cross-sectional multivariate correlational design was employed in this study to assess the relationships among motivational orientations, perceptions of belonging, and interest in sport and education. A two-step approach to theory testing and development (Anderson & Gerbing, 1988; Jöreskog & Sörbom, 1993; Schumacker & Lomax, 1996) was adopted. In this approach measurement models are verified before the fit of theory-based structural models are evaluated. This allows for assessment of convergent and discriminant validity of the measurement models as well as an assessment of predictive validity of the structural model (Anderson & Gerbing, 1988). As Jöreskog and Sörbom, stated, "the testing of the structural model, i.e., the testing of the initially specified theory, may be meaningless unless it is first established that the measurement model holds" (p. 113). Others have echoed this sentiment
(Anderson & Gerbing, 1988; Schumacker & Lomax, 1996). In step one, the fit of the measurement models to the data were evaluated for the new social motivational constructs (i.e., social motivational orientations, perceived belonging) and models were respecified if necessary. A strategy often employed in measurement development with large data sets is to conduct an exploratory factor analysis on one half of the data set and confirm the established factor structure through confirmatory factor analysis with second half of the data (John & Benet-Martinez, 2000). This strategy would be justified if the researcher had no idea of the factor structure of the theoretical construct of interest or the scale itself. In the present study, however, there was no need for an exploratory factor analysis because each inventory had an underlying theoretical base upon which measurement models were proposed and confirmatory factor analyses employed to evaluate fit of these models to the data. In step two, the fit of the structural model based on theoretical predictions about the relationships among variables was evaluated.

In addition to the two step approach, a cross-validation approach (Browne & Cudeck, 1989; Cudeck & Browne, 1983) was also adopted. Cross-validation involves splitting the sample into two smaller samples and using one sample for model development and the second sample for model validation. Cudeck and Browne (1983) argued that cross-validation reduces the likelihood that a model will be adopted simply because it is the best fit to that sample data rather than reflecting population parameters. This cross-validation approach was adopted in the present investigation for both the measurement and path analysis phases of the analysis. That is, in each phase the sample was randomly split into two smaller samples (i.e., phase 1: sub sample A and sub sample B; phase 2: sub sample X and sub sample Y) each containing approximately 50% of the cases. Sub sample A (phase 1) and sub sample X (phase 2) were used as the calibration samples on which the fit of the proposed models were evaluated. Subsequent cross-validation analyses were conducted by appropriately parameterising each model with the unstandardised calibration path coefficients, factor variances and covariances and rerunning the analyses on the validation samples (sub sample B, phase 1, and sub sample Y, phase 2).

Analyses

Preliminary analyses

Descriptive statistics including means, standard deviations, skewness, kurtosis, and bivariate correlations were calculated for all variables. Many of the estimation methods and fit indices employed in structural equation modelling are based on assumptions of univariate and multivariate normality. To assess univariate normality skewness and kurtosis values were calculated. Typically the significance of skewness or kurtosis is tested by dividing skewness (or kurtosis) values by their standard error. With larger samples, however, the standard errors
associated with both skewness and kurtosis decrease and even small deviations from normality can result in rejection of the null hypothesis when this deviation would not make a substantive difference in the analysis (Tabachnick & Fidell, 1996). Therefore, "with large samples the significance level of skewness [and kurtosis] is not as important as its actual size (worse the farther from zero)" (Tabachnick & Fidell, 1996, p.73). Kline (1998) suggested that absolute values of univariate skewness greater than 3 and univariate kurtosis values greater than 10 indicate departure from normal distribution that is likely to be problematic in structural equation modelling. Others (e.g., Schutz & Gessaroli, 1993) have indicated stricter criteria suggesting that results of SEM procedures are not compromised when most of the skewness and kurtosis values are less than an absolute value of 1. In the present investigation skewness and kurtosis values were considered indicative of an approximately normal distribution if the majority of values did not exceed 1 and any one value did not exceed 3.

With regard to multivariate normality, coefficients such as Mardia’s coefficient and the normalised estimate of Mardia’s coefficient provide an indication of the extent to which that data departs from multivariate normality. The larger these values the greater the deviation from normality in the data and the less confidence one should have that the assumption of multivariate normality has been met. Under conditions of normality values of Mardia's coefficient greater than 3 should occur only rarely, however values near 5 should cause little concern (Bentler, personal communication, May 11, 2001). If substantial univariate and multivariate nonnormality exist in the data alternative methods of estimation and fit indices such as the Robust statistics option and Satorra-Bentler scaled chi square statistic can be used to correct for nonnormality (Bentler, 1995).

Pearson's product-moment correlations were used as an initial assessment of factor patterns and convergent and discriminant validity of the measurement scales. Items that are hypothesised to be underpinned by the same latent construct were expected to correlate more highly with each other (convergent validity) and less highly with items proposed to assess another latent construct (discriminant validity). Correlations also provided an initial assessment of the strength of the relationships among variables for the structural model.

**Main analyses**

Structural equation modelling procedures were employed to assess the fit of measurement and path models to the data. All analyses were conducted using the EQS (Bentler, 1995) statistical package. Maximum likelihood with the Robust statistics options was used as the estimation method and all analyses were conducted on covariance matrices. In phase one, confirmatory factor analysis was employed to assess the fit of the proposed measurement and alternative models to the data from the SMOSS, SMOSE, and PBS. In phase two, to examine the predictive validity of the social motivation model, path models reflecting
the propositions and hypotheses forwarded in Chapter 3 were specified. The fit of these theoretically based structural models of the relationships among social motivational variables, and interest/enjoyment in sport and education were evaluated.

Assessment of reliability and validity

The reliability and validity of measures employed in empirical research is critical. Without valid and reliable measures researchers can have little confidence in the relationships between constructs indicated in their research findings or in whether similar findings would be obtained across different participants, different settings, and different procedures (Brewer, 2000). Where possible previous research can be employed to provide evidence of scale reliability and validity, however, when developing new measures or adapting existing ones, as in part of the present investigation, it is incumbent on the researcher to provide this evidence.

Indices of reliability and validity describe the extent to which the theoretical construct of interest is captured by the measurement tool and is reproducible. Reliability refers to the consistency of a measure and indicates the extent to which the scores produced by the measure are reproducible (John & Benet-Martinez, 2000). The coefficient alpha (Cronbach, 1951) is the most commonly used index of reliability in social psychological research (John & Benet-Martinez, 2000). This coefficient provides an index of the internal consistency of a measure, essentially the extent to which responses to each item on a scale are correlated with each other. If responses to items on a scale are similar across participants, the items will correlate highly with each other and the resulting alpha coefficient will be large. In contrast, if responses to items are variable across participants, interitem correlations will be low and coefficient alpha will also be low. A coefficient alpha of .70 is generally considered to indicate acceptable reliability (Nunnally, 1978) and this criteria of reliability was employed in the present study.

Despite being the most widely employed index of scale reliability an acceptable coefficient alpha does not guarantee the scale is unidimensional. That is, “alpha does not measure the homogeneity of the interitem intercorrelations, nor does it indicate that a scale is unidimensional” (John & Benet-Martinez, 2000, p. 344). Alpha reflects the average correlation among the interitem intercorrelations and because it is an average it can disguise rather than highlight scale dimensionality. Therefore, dimensionality of measurement scales needs to be established in other ways. The most rigorous approach is structural equation modelling and specifically confirmatory factor analysis (John & Benet-Martinez, 2000). This approach allows researchers to assess the fit of the interitem correlation matrix to unidimensional as well as multidimensional models. Allowing researchers to evaluate how well a single factor compared with multiple factor models reproduce the observed correlations among the scale items. In this research the fit was assessed of single and multiple factor models to determine the
dimensionality of the measurement scales employed (for the criteria employed to evaluate model fit see section on assessment of model fit).

The other central issue in measurement development is validity, specifically construct validity. Construct validity is one form of external validity or generalisability that allows researchers to gauge the appropriateness of inferences from their measurements to other samples, items, measures, methods, and outcomes (John & Benet-Martinez, 2000). Construct validity is not a case of establishing that a measure is valid or invalid rather researchers build evidence of the extent to which the measure is representative of the theoretical construct it is intended to assess (Brewer, 2000). As John and Benet-Martinez (2000) noted, construct validity (and reliability) implies "that we can trust that the measurement has a particular meaning" (p. 339).

There are many forms of validity that contribute to construct validity of a measurement scale including content validity, face validity, criterion-oriented validity, structural validity, convergent validity, and discriminant validity. Face validity refers to whether "at face value" the items appear to assess attributes and behaviours relevant to the theoretical construct of interest. Content validity is evidence that the sample of items is representative of the universe of possible items relevant to the construct. Face and content validity are typically addressed through a systematic process in which a large pool of items relevant to the construct of interest is developed and gradually refined and reduced to a smaller representative sample of items often involving a panel of experts and pilot scale administration (John & Benet-Martinez, 2000). Similar procedures were adopted in the development of the measure of social motivational orientations in sport described in part of the present investigation. In addition, factor analysis can be employed to verify the factor structure of the scale (see previous discussion on scale dimensionality) and was also employed in the present investigation to provide evidence of scale validity.

Convergent and discriminant validity refer to the extent to which items on a scale are representative of the construct they are intended to assess (convergent aspect of validation) and not representative of the variety of other constructs whose assessment were intended to be avoided (discriminant aspect of validation) (Judd & McClelland, 1998). That is, items would be expected to correlate most closely with other items intended to assess the same scale component and less closely with items that assess other scale components. Closely associated with convergent and discriminant validity is structural validity, the extent to which the correlational or factor structure of a scale is consistent with the hypothesised internal structure of the construct of interest. In the present investigation confirmatory factor analysis was chosen as the approach to address these aspects of construct validity because it provides a means to assess convergent validity, discriminant validity, and random error within the same general framework (John & Benet-Martinez, 2000). In confirmatory factor analysis the
observed variables (i.e., items on the scale) are assumed to covary only because they all measure the same underlying construct (i.e., a latent factor). Therefore, in a good fit model items would be expected to have high loadings on their specified factors and low or zero loadings on other factors. The high loadings on their specified factors indicates convergent validity and low or zero loadings on other factors indicates discriminant validity. Further, the correlation between latent factor also provides evidence of discriminant validity. John and Benet-Martinez (2000) suggest that high correlations between factors (i.e., .90) indicates relatively indistinguishable factors while low correlations between factors (i.e., .10) demonstrates good discrimination between factors. Finally, a good model fit that reflects the hypothesised factor structure provides evidence for structural validity of the scale.

**Assessment of model fit**

In structural equation modelling the relationships between variables (i.e., parameters) are estimated to minimise the discrepancy between the covariance matrix of the sample data and the reproduced covariance matrix which is based on the derived parameter estimates. Overall fit indices assess the magnitude of the discrepancy between the sample and reproduced covariance matrices (Hu & Bentler, 1995). Absolute fit indices such as chi square assess how well a model reproduces the sample data. Incremental fit indices such as the comparative fit index (CFI) measure improvement in fit by comparing an a priori model with a more restricted baseline model such as a null model in which all observed variables are uncorrelated (Bentler & Bonnett, 1980; Hu & Bentler, 1995). Following recent recommendations (Hu & Bentler, 1995; Hoyle & Panter, 1995; Kline, 1998), multiple fit indices were used to evaluate the fit of a priori specified models to the data. Hoyle and Panter (1995) recommended the use of chi square and at least two incremental fit indices based on assumed distributions to assess fit. The indices employed in this study were the chi square statistic to degrees of freedom ratio, Comparative Fit Index (CFI), and Bentler-Bonnett Non-Normed Fit index (BBNNFI). In addition to overall fit indices, examination of the residuals and the Residual Mean Square Error of Approximation (RMSEA) index provide additional information regarding the fit of the model to the data. Finally, examination of the appropriateness of and significance of parameter estimates provides information about the fit of the model and more specifically the relationships among variables in the model.

**Absolute fit indices**

The chi square test is a test of the discrepancy between sample and reproduced covariance matrices. However, as Hu and Bentler (1995) noted "chi square can be influenced by sample size such that with large samples even a trivial difference between sample covariance and fitted model may result in rejection of the specified model" (p. 78). Therefore, additional indices of model fit should also be employed. The ratio between the chi square
statistic and degrees of freedom is typically employed to assess quality of model fit (Hu & Benter, 1995). A large ratio indicates that the model may not be a good representation of the relationships among variables in the data. A chi square to degrees of freedom ratio of less than 2 "gives a rough indication that the model may fit the data" (Tabachnick & Fidell, 1996, p. 776). McIver and Carmines (1981) recommend that this ratio be less than 3 for adequate fit.

**Incremental fit indices**

In their description of the use of incremental fit indices Hu and Bentler (1995) also noted the difference between absolute and incremental indices. That is, they suggested that "like R square in multiple regression, these [incremental] indexes are meant to quantify something akin to variance accounted for, rather than to test null hypotheses. In particular, these indexes generally quantify the extent to which the variation and covariation in the data are accounted for by a model" (p. 81-82). Of the many incremental fit indices available those based on specified distributions such as central or noncentral chi square distributions are recommended (Hoyle & Panter, 1995). The Bentler-Bonnett Non Normed Fit Index (BBNNFI) and Comparative Fit Index (CFI) are two such fit indices and were chosen for this investigation. These types of incremental fit indexes are less affected by sample size than other fit indexes such as absolute indices and incremental indices (e.g., Normed fit index (Bentler & Bonett, 1980) or Bollen's fit index (BL86) (Bollen, 1986)) which use test statistics that are not assumed to follow any particular distributional form (Hu & Bentler, 1995). In general, fit index values greater than .90 reflect good model fit (Byrne, 1994; Hoyle, 1995; Kline, 1998)

**Residuals**

The residuals are the discrepancy between the observed or sample data and the estimated values based on the model parameters. Evaluation of the residuals provides another indication of the fit of a model to the data (Hu & Bentler, 1995). The residuals of the correlation matrix, rather than the covariance matrix, are most useful because they always range from +1 to -1 and therefore are easily interpreted. If the model is a good account of the correlations among variables then the discrepancies between the observed and reproduced correlations will be close to zero. An average correlation residual of less than .05 and individual residuals less than .2 are considered indicators of adequate model fit (Kerr, 1999). Further, the RMSEA is a fit index of the residuals. RMSEA values less than .08 are considered indicative of an adequate model fit (Byrne, 1994; Hoyle, 1995) and values lower than .05 indicate good fit (Browne & Cudeck, 1993).

**Parameter estimates**

The parameter estimates in both measurement (factor loadings) and structural models (path coefficients) provide an assessment of the direction and magnitude of the relationships
among variables. The parameter estimates divided by their standard error provide a statistic distributed like a $t$ statistic and can be evaluated against a criterion to determine the level of statistical significance of that parameter. The criterion employed in this investigation was $\pm 1.96$, the $t$ value corresponding with an alpha level of .05. Parameter statistics greater than this criterion were considered to represent a statistically significant relationship between observed and latent variables (measurement model) or in the case of the structural model a significant relationship between independent and dependent variables. It is important to note, however, that in the measurement models in order to provide a metric for each latent variable the loading of one item per latent variable was set to 1.0 and therefore could not be tested for significance. In addition to testing for significance the standardised parameter estimates can be squared to provide an indication of the percentage of variance in the observed variables that is explained by the latent construct or in the case of the structural model the percentage of variance in the dependent variable explained by the independent variable.

In summary, multiple indices of model fit were employed to evaluate the proposed models. Even with these criteria the decision as to whether a proposed model provides a good fit to the data is somewhat subjective. If all the indices meet the criteria there is justification for concluding the model provides a good fit to the data. However, if most fit indices, expect perhaps only one or two, meet the criteria and the others approach the criteria this was also considered to reflect acceptable fit to the data. If only a few or none of the fit indices meet the criteria then the model would be considered a poor fit to the data.
CHAPTER 5: RESULTS - PHASE ONE: MEASUREMENT DEVELOPMENT

Overview

In phase one of the analysis the adequacy with which social motivation measures captured the intended constructs was evaluated using data from sub samples A and B. Specifically, the psychometric properties of three measures of social motivational constructs were evaluated. This analysis was divided into three parts. In parts one and two, the structural validity of the social motivational orientations scales for sport (SMOSS) and for education (SMOSE) were examined. Also in part two, the relative stability across domains of the factor structure of the social motivational orientations scales was assessed using an extension of confirmatory factor analysis, multiple group confirmatory factor analysis. Finally, in part three, the structural validity of the sport version of the perceived belonging in sport scale (PBS) was evaluated.

Part one: Social motivational orientations in sport

Purpose: To evaluate the psychometric properties of a conceptually-based measure of social motivational orientations in sport. Specifically, the purpose was to examine the structural validity (convergent and discriminant) of the social motivational orientations in sport scale (SMOSS).

Descriptive statistics

The means, standard deviations, skewness, kurtosis, and bivariate correlations for each item in the SMOSS for both the calibration and validation samples are presented in Table 7. For each item, except items 5, 8, and 14, the mean was above the scale midpoint indicating general endorsement of each of the scale items. All items exhibited some skewness and kurtosis, however, the values did not depart significantly from a normal distribution. With regard to multivariate normal distribution Mardia's coefficient (sub sample A = 29.37, sub sample B = 36.39) and the normalised estimate (sub sample A = 10.69, sub sample B = 12.75) were slightly above typically accepted values therefore the robust method of estimation and statistics option was employed in subsequent analyses.

An inspection of the bivariate correlations among items provided an initial examination of the discriminant and convergent validity of the SMOSS (see Table 7). Examination of the pattern of correlations from both samples did not support the proposed two factor structure (i.e., affiliation and social validation). It did, however, indicate a three factor structure in
Table 7. Descriptive statistics for SMOSS items.

<table>
<thead>
<tr>
<th>Item</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>7</th>
<th>11</th>
<th>12</th>
<th>15</th>
<th>1</th>
<th>9</th>
<th>10</th>
<th>13</th>
<th>3</th>
<th>5</th>
<th>8</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – make friends</td>
<td></td>
<td>0.40</td>
<td>0.42</td>
<td>0.42</td>
<td>0.40</td>
<td>0.56</td>
<td>0.34</td>
<td>0.33</td>
<td>0.66**</td>
<td>0.11**</td>
<td>0.24</td>
<td>0.44</td>
<td>0.20</td>
<td>0.16</td>
<td>0.18</td>
</tr>
<tr>
<td>4 – laugh together</td>
<td>0.47</td>
<td></td>
<td>0.36</td>
<td>0.51</td>
<td>0.42</td>
<td>0.38</td>
<td>0.41</td>
<td>0.20</td>
<td>0.08**</td>
<td>0.18</td>
<td>0.13**</td>
<td>0.41</td>
<td>0.31</td>
<td>0.33</td>
<td>0.27</td>
</tr>
<tr>
<td>6 – socialise outside sport</td>
<td>0.54</td>
<td>0.35</td>
<td></td>
<td>0.39</td>
<td>0.47</td>
<td>0.49</td>
<td>0.29</td>
<td>0.23</td>
<td>0.09**</td>
<td>0.17</td>
<td>0.25</td>
<td>0.38</td>
<td>0.20</td>
<td>0.17</td>
<td>0.16</td>
</tr>
<tr>
<td>7 – fun with others</td>
<td>0.43</td>
<td>0.66</td>
<td>0.43</td>
<td></td>
<td>0.50</td>
<td>0.51</td>
<td>0.36</td>
<td>0.30</td>
<td>0.21</td>
<td>0.18</td>
<td>0.15</td>
<td>0.32</td>
<td>0.20</td>
<td>0.32</td>
<td>0.15</td>
</tr>
<tr>
<td>11 – enjoy time with others</td>
<td>0.38</td>
<td>0.49</td>
<td>0.36</td>
<td>0.54</td>
<td></td>
<td>0.58</td>
<td>0.48</td>
<td>0.32</td>
<td>0.20</td>
<td>0.14**</td>
<td>0.30</td>
<td>0.31</td>
<td>0.21</td>
<td>0.27</td>
<td>0.21</td>
</tr>
<tr>
<td>12 – friends with others</td>
<td>0.50</td>
<td>0.47</td>
<td>0.46</td>
<td>0.48</td>
<td>0.51</td>
<td></td>
<td>0.37</td>
<td>0.33</td>
<td>0.18</td>
<td>0.20</td>
<td>0.35</td>
<td>0.27</td>
<td>0.13**</td>
<td>0.17</td>
<td>0.23</td>
</tr>
<tr>
<td>15 – hanging out is fun</td>
<td>0.45</td>
<td>0.54</td>
<td>0.36</td>
<td>0.53</td>
<td>0.53</td>
<td>0.44</td>
<td></td>
<td>0.04**</td>
<td>-0.04**</td>
<td>-0.16</td>
<td>0.08**</td>
<td>0.27</td>
<td>0.22</td>
<td>0.36</td>
<td>0.22</td>
</tr>
<tr>
<td>1 – told performed well</td>
<td>0.26</td>
<td>0.29</td>
<td>0.10*</td>
<td>0.38</td>
<td>0.29</td>
<td>0.21</td>
<td>0.12*</td>
<td></td>
<td>0.30</td>
<td>0.30</td>
<td>0.35</td>
<td>0.19</td>
<td>0.09*</td>
<td>-0.01*</td>
<td>0.17</td>
</tr>
<tr>
<td>9 – kids think really good</td>
<td>0.27</td>
<td>0.21</td>
<td>0.31</td>
<td>0.30</td>
<td>0.39</td>
<td>0.29</td>
<td>0.19</td>
<td>0.40</td>
<td></td>
<td>0.49</td>
<td>0.64</td>
<td>0.25</td>
<td>0.32</td>
<td>0.39</td>
<td>0.50</td>
</tr>
<tr>
<td>10 – accomplishment recognition</td>
<td>0.30</td>
<td>0.23</td>
<td>0.23</td>
<td>0.37</td>
<td>0.41</td>
<td>0.27</td>
<td>0.18</td>
<td>0.46</td>
<td>0.64</td>
<td></td>
<td>0.49</td>
<td>0.20</td>
<td>0.20</td>
<td>0.23</td>
<td>0.32</td>
</tr>
<tr>
<td>13 – ability impresses others</td>
<td>0.40</td>
<td>0.29</td>
<td>0.34</td>
<td>0.41</td>
<td>0.39</td>
<td>0.37</td>
<td>0.22</td>
<td>0.44</td>
<td>0.71</td>
<td>0.66</td>
<td></td>
<td>0.39</td>
<td>0.35</td>
<td>0.30</td>
<td>0.61</td>
</tr>
<tr>
<td>3 – belong to popular group</td>
<td>0.50</td>
<td>0.44</td>
<td>0.36</td>
<td>0.45</td>
<td>0.39</td>
<td>0.40</td>
<td>0.43</td>
<td>0.17</td>
<td>0.30</td>
<td>0.28</td>
<td>0.42</td>
<td></td>
<td>0.51</td>
<td>0.63</td>
<td>0.57</td>
</tr>
<tr>
<td>5 – centre of attention</td>
<td>0.19</td>
<td>0.17</td>
<td>0.25</td>
<td>0.18</td>
<td>0.25</td>
<td>0.22</td>
<td>0.23</td>
<td>0.04**</td>
<td>0.37</td>
<td>0.18</td>
<td>0.35</td>
<td>0.46</td>
<td></td>
<td>0.60</td>
<td>0.51</td>
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<tr>
<td>8 – part of ‘in’ crowd</td>
<td>0.33</td>
<td>0.33</td>
<td>0.33</td>
<td>0.40</td>
<td>0.35</td>
<td>0.35</td>
<td>0.48</td>
<td>0.12**</td>
<td>0.27</td>
<td>0.19</td>
<td>0.35</td>
<td>0.71</td>
<td>0.45</td>
<td></td>
<td>0.58</td>
</tr>
<tr>
<td>14 – popular player</td>
<td>0.43</td>
<td>0.35</td>
<td>0.38</td>
<td>0.38</td>
<td>0.36</td>
<td>0.41</td>
<td>0.43</td>
<td>0.22</td>
<td>0.44</td>
<td>0.35</td>
<td>0.58</td>
<td>0.61</td>
<td>0.51</td>
<td>0.67</td>
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Calibration sub sample

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<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
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<tbody>
<tr>
<td>Mean</td>
<td>3.73</td>
<td>3.96</td>
<td>0.47</td>
<td>3.89</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.86</td>
<td>.78</td>
<td>1.04</td>
<td>.80</td>
</tr>
<tr>
<td>Skewness</td>
<td>-.68</td>
<td>-.103</td>
<td>-.52</td>
<td>-.109</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>.50</td>
<td>2.17</td>
<td>-.21</td>
<td>2.25</td>
</tr>
</tbody>
</table>

Validation sub sample

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.74</td>
<td>3.91</td>
<td>3.51</td>
<td>3.98</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.77</td>
<td>.82</td>
<td>.92</td>
<td>.67</td>
</tr>
<tr>
<td>Skewness</td>
<td>-.121</td>
<td>-.100</td>
<td>-.58</td>
<td>-.88</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.54</td>
<td>1.81</td>
<td>.39</td>
<td>2.62</td>
</tr>
</tbody>
</table>

Note. Bivariate correlations for calibration sub sample (n = 182) appear below the diagonal and for the validation sub sample (n =166) above the diagonal.

* not significant (p > .05)

Mean item scores in sub sample A were not significantly different from those in sub sample B (Wilks Lambda = .95, F (15, 329) = 1.09, p > .05)
which the social validation orientation was represented by two separate factors, social recognition and social status may provide a better representation of the pattern of relationships among the items. Further, three items appeared to demonstrate little discriminant or convergent validity. These items (1, 14, 15) had moderate correlations with most items (average correlation with item 1: sub sample A $r = .23$, sub sample B $r = .25$; average correlation with item 14: sub sample A $r = .33$, sub sample B $r = .44$; average correlation with item 15: sub sample A $r = .26$, sub sample B $r = .37$). These items were removed from subsequent analyses.

The average correlation among items proposed to assess an affiliation orientation was moderate (sub sample A $r = .45$, sub sample B $r = .47$) and demonstrated moderate convergent validity for the items comprising this sub scale. Support for the discriminant validity of this sub scale was provided by low average correlations among items comprising the social validation sub scale (sub sample A $r = .23$, sub sample B $r = .33$). Examination of two possible validation sub scales revealed improved discrimination between validation and affiliation items (recognition sub sample A $r = .18$, sub sample B $r = .32$ and social status sub sample A $r = .27$, sub sample B $r = .33$). The average correlations for the items comprising the social recognition and social status sub scales (sub sample A $r = .54$, sub sample B $r = .67$ and sub sample A $r = .58$, sub sample B $r = .54$, respectively) also demonstrated convergent validity among these items. The average interitem correlation between these two sub scales was low (sub sample A $r = .29$, sub sample B $r = .30$) supporting the discrimination of these two sub scales.

Calibration confirmatory factor analyses

Confirmatory factor analysis was employed to assess the fit of two a priori specified measurement models to the data from the SMOSS for the calibration sample (sub sample A). In each model, the loading of one item on each factor was set to 1.0 in order to provide a metric for each factor. A summary of the fit of the measurement models is presented in Table 8. First, in light of the research in sport that has identified a single social motivational orientation (e.g., Ewing, 1981; Maehr & Nicholls, 1980; Whitehead, 1995) the fit of a one-factor model with all items underpinned by one latent social factor was evaluated. As expected this model demonstrated poor fit to the data, Scaled $\chi^2 (df = 54, N = 178) = 301.29$, $p < .001$, BBNNFI = .50, RCFI = .58, RMSEA = .19. The chi square-to-degrees of freedom ratio was greater than 3, the fit indices were substantially less than .90 and the residuals were large. Specifically, the average absolute standardised residual was .09, the average off-diagonal absolute standardised residual was .11, and the largest individual residual was .47. Such a poor fitting model did not lend support for a one factor model of social motivational orientation in sport. That is, one factor did not adequately represent the pattern of relationships among the items of the SMOSS.
Table 8. Fit indices and residuals for models of SMOSS data.

<table>
<thead>
<tr>
<th>Model</th>
<th>Scaled $\chi^2$</th>
<th>$p$</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>BBNNFI</th>
<th>RCFI</th>
<th>RMSEA</th>
<th>AASR</th>
<th>AODSR</th>
<th>Largest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>301.29</td>
<td>$&lt;$ .001</td>
<td>54</td>
<td>5.58</td>
<td>.50</td>
<td>.58</td>
<td>.19</td>
<td>.09</td>
<td>.11</td>
<td>.47</td>
</tr>
<tr>
<td>2</td>
<td>179.63</td>
<td>$&lt;$ .001</td>
<td>53</td>
<td>3.39</td>
<td>.73</td>
<td>.79</td>
<td>.14</td>
<td>.06</td>
<td>.07</td>
<td>.36</td>
</tr>
<tr>
<td>3</td>
<td>89.06</td>
<td>$=$ .001</td>
<td>51</td>
<td>1.75</td>
<td>.91</td>
<td>.94</td>
<td>.08</td>
<td>.04</td>
<td>.05</td>
<td>.18</td>
</tr>
<tr>
<td>4</td>
<td>89.90</td>
<td>$=$ .001</td>
<td>52</td>
<td>1.73</td>
<td>.91</td>
<td>.94</td>
<td>.08</td>
<td>.05</td>
<td>.05</td>
<td>.20</td>
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<tr>
<td>Validation</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>111.62</td>
<td>$&lt;$ .001</td>
<td>66</td>
<td>1.69</td>
<td>.91</td>
<td>.91</td>
<td>.09</td>
<td>.12</td>
<td>.13</td>
<td>.33</td>
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<tr>
<td>4</td>
<td>110.10</td>
<td>$&lt;$ .001</td>
<td>64</td>
<td>1.72</td>
<td>.90</td>
<td>.91</td>
<td>.09</td>
<td>.12</td>
<td>.12</td>
<td>.35</td>
</tr>
</tbody>
</table>

Note. Calibration sub sample (4 participants were dropped from the analysis due to incomplete data, n = 178). Validation sub sample (1 participant was dropped from the analysis due to incomplete data, n = 165).

*aModel 1 = one-factor model, Model 2 = two-factor model, Model 3 = three-factor model, Model 4 = three first order, 1 second order social validation factor model.

$^b$Bentler-Bonnet Non Normed fit index. $^c$Robust Comparative fit index. $^d$Residual mean square error of approximation index. $^e$Average absolute standardised residual. $^f$Average off-diagonal absolute standardised residual. $^g$Largest individual residual.
Second, the fit to the data of the proposed two factor model was assessed (see Figure 5). This model was hypothesised to represent the two social motivational orientations conceptualised in Chapter 3 as part of the social motivation model. Items were expected to load only on their respective factors (i.e., underlying latent variable) and the two factors were free to correlate. The fit of the proposed two factor model indicated that this model did not adequately account for the relationships among the items, Scaled $\chi^2 (df = 53, N = 178) = 179.63, p < .001$, BBNNFI = .73, RCFI = .79, RMSEA = .14. The chi square-to-degrees of freedom ratio was slightly greater than 3, the fit indices were less than .90, the residual fit index was greater than .08, and the residuals were moderate (average absolute standardised residual = .06, the average off-diagonal absolute standardised residual = .07, largest individual residual = .36). These findings did not support a two-factor structure for the SMOSS. Although the fit of the two factor model was superior to the fit of the one factor model, support for a two factor model was not established.

Figure 5. Proposed two-factor correlated model of SMOSS items
In light of these findings a closer examination of the item content and correlations was made. This examination revealed that the validation items formed two distinct sub scales. Therefore, the fit of two further models were evaluated (see Figures 6 & 7). In these models the social validation factor was split into two separate factors, one reflecting an orientation towards social recognition for achievement and the other reflecting an orientation towards social status. The decision to test the fit of these models was based on several criteria, the results of the preliminary analysis of bivariate correlations amongst items and a re-examination of item content. Most importantly, though, it made conceptual sense to examine these two different types of social validation because one was more ability focused and the other peer oriented. These may be distinct orientations, distinct ways in which self validation is gained through sport. Model four differed from model three only in the addition of a higher order social validation latent factor underpinning the social recognition and social status first order latent factors. The fit of this higher order model would provide evidence as to whether social recognition and social status orientations could be viewed as manifest variables of one underlying latent construct, that of social validation. In these three factor models, items were expected to load only on their respective latent factor and each of the three factors were free to correlate with each other.

The third model did provide an acceptable fit to the data, Scaled $\chi^2 (df = 51, N = 178) = 89.06, p = .001, \text{BBNNFI} = .91, \text{RCFI} = .94, \text{RMSEA} = .08$. This three-factor model differed from the two-factor model only in that the social validation factor was split into two separate but correlated factors. For this model the chi square to degrees of freedom ratio was 1.75, the fit indices were above .90 and the residuals were small. The average absolute standardised residual was .04, the average off-diagonal absolute standardised residual was .05, and the largest individual residual = .18. All parameter estimates were significant and the factor loadings of items on their respective latent variables were moderate to large ranging from .58 to .87 (see Table 9). Indicating the latent variables were explaining a significant amount of variance in the observed variables (range 33% to 75%). The standard solution of parameter estimates is presented in Figure 8. The correlations between the latent factors were moderate, affiliation and recognition = .32, affiliation and status = .49, and recognition and status = .50.

The fourth model which contained the same three-first-order factor as model 3, but, in addition contained a second order social validation factor that manifests through the social recognition and social status first order factors. This fourth model also adequately fit the data and differed only slightly from the fit of model 3, Scaled $\chi^2 (df = 52, N = 178) = 89.90, p = .001, \text{BBNNFI} = .91, \text{RCFI} = .94, \text{RMSEA} = .08$. The chi square to degrees of freedom ratio was 1.73, the fit indices were greater than .90, and the residuals were small. The average absolute standardised residual was .05, the average off-diagonal absolute standardised residual
Figure 6. Proposed three-factor correlated model of SMOSS items.
Figure 7. Proposed hierarchical model of SMOSS items.
Table 9. Standardised parameter estimates for SMOSS data.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Calibration</th>
<th>Validation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 3 R²</td>
<td>Model 4 R²</td>
</tr>
<tr>
<td>F1 → Item 2 (make friends)</td>
<td>.58*</td>
<td>.33</td>
</tr>
<tr>
<td>F3 → Item 3 (belong to popular group)</td>
<td>.76*</td>
<td>.58</td>
</tr>
<tr>
<td>F1 → Item 4 (laugh together)</td>
<td>.71</td>
<td>.50</td>
</tr>
<tr>
<td>F3 → Item 5 (centre of attention)</td>
<td>.71</td>
<td>.51</td>
</tr>
<tr>
<td>F1 → Item 6 (socialise outside sport)</td>
<td>.56</td>
<td>.31</td>
</tr>
<tr>
<td>F1 → Item 7 (fun with others)</td>
<td>.78</td>
<td>.61</td>
</tr>
<tr>
<td>F3 → Item 8 (part of 'in' crowd)</td>
<td>.87</td>
<td>.75</td>
</tr>
<tr>
<td>F2 → Item 9 (kids think I'm really good)</td>
<td>.80*</td>
<td>.64</td>
</tr>
<tr>
<td>F2 → Item 10 (accomplishment recognition)</td>
<td>.65</td>
<td>.42</td>
</tr>
<tr>
<td>F1 → Item 11 (enjoy time with others)</td>
<td>.66</td>
<td>.43</td>
</tr>
<tr>
<td>F1 → Item 12 (friends with others)</td>
<td>.68</td>
<td>.46</td>
</tr>
<tr>
<td>F2 → Item 13 (ability impresses others)</td>
<td>.84</td>
<td>.70</td>
</tr>
<tr>
<td>F4 → F2</td>
<td>.64</td>
<td>.41</td>
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<tr>
<td>F4 → F3</td>
<td>.79</td>
<td>.62</td>
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<td>F4 – F1 (correlation)</td>
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<td>F2 – F1 (correlation)</td>
<td>.32</td>
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<tr>
<td>F3 – F1 (correlation)</td>
<td>.49</td>
<td></td>
</tr>
<tr>
<td>F2 – F3 (correlation)</td>
<td>.50</td>
<td></td>
</tr>
</tbody>
</table>

Note. Calibration sub sample (4 participants were dropped from the analysis due to incomplete data, n = 178). Validation sub sample (1 participant was dropped from the analysis due to incomplete data, n = 165). Model 3 = three-factor model, Model 4 = three first order, 1 second order social validation factor model. F1 = affiliation orientation, F2 = social recognition orientation, F3 = social status orientation, F4 = higher order social validation orientation. All estimated parameters were significant (p < .05)

* parameters fixed at 1.00 in calibration model.
Figure 8. Standardised parameter estimates from CFA for the three-first-order factor correlated model for the SMOSS data (calibration sub sample).
Model fit indices, Scaled $\chi^2 (df = 51, N = 178) = 89.06, p = .001$, BBNNFI = .91, RCFI = .94, RMSEA = .08.
was .05, and the largest individual residual = .20. The correlation between the first order affiliation latent factor and the second order validation factor was .58. This alternative model provides support for a single social validation factor, as hypothesised, however contrary to hypotheses this factor was comprised of two sub components and not unidimensional. It is important to note, however, that in order to have an identified hierarchical model with only two first order factors it was necessary to place certain constraints on the model. Specifically, the variance of the higher order factor was constrained to equal 1.0 and the factor loadings of the social recognition and social status first order factors were constrained to be equal. Such constraints are a statistical limitation of covariance matrix analysis and allow only partial assessment of fit of the model to the data. Although some researchers have suggested that models should be respecified rather than constrained in this way (e.g., Byrne, 1994), there was no sound conceptual reason for respecifying the model in the current investigation.

Validation confirmatory factor analyses

To assess the stability of the parameter estimates and validity of the calibration models cross-validation confirmatory factor analyses were employed. The fit of models 3 and 4 from the calibration analyses to the data from sub sample B were evaluated. The unstandardised path coefficients for the factor loadings, variances, and covariances from the calibration models were used as the parameter estimates for the validation models. The fit indices of the validation models are summarised in Table 8.

The three-first-order factor parameterised model (model 3) provided an acceptable fit to the data, Scaled $\chi^2 \,(df=66, N=165) = 111.62, p < .001$, BBNNFI = .91, RCFI = .91, RMSEA = .09. For this model the chi square to degrees of freedom ratio was 1.69 and the fit indices were above .90. The residuals, however, indicated a small amount of misfit in the model, average absolute standardised residual = .12, average off-diagonal absolute standardised residual = .13, and the largest individual residual = .33. All parameter estimates were significant and the factor loadings of items on their respective latent variables were moderate to large ranging from .50 to .88 (see Table 9). Indicating the latent variables were explaining a significant amount of variance in the observed variables (range 25% to 77%). The standard solution of parameter estimates is presented in Figure 9. The correlations between the latent factors were moderate, affiliation and recognition = .32, affiliation and status = .50, and recognition and status = .50.

The hierarchical factor model (model 4) also adequately fit the data, providing a fit very similar to the data as model 3, Scaled $\chi^2 \,(df=64, N=165) = 110.10, p < .001$, BBNNFI = .90, RCFI = .91, RMSEA = .09. The chi square to degrees of freedom ratio was 1.72, the fit indices were above .90, however, as with model 3, examination of the residuals indicated a small amount of misfit in the model. The average absolute standardised residual was .12, the average
off-diagonal absolute standardised residual was .12, and the largest individual residual was .35. The correlation between the first order affiliation latent factor and the second order validation factor was .58. The fit of this model to the validation sample, again provided support for the hierarchical nature of the social validation orientation, however, this should be interpreted with caution due to the statistical limitations in evaluating the fit of a hierarchical model with only two first order factors.

In summary, the results of the descriptive analyses and confirmatory factor analyses provided evidence of construct validity of the social motivational orientations in sport scale. Specifically, the simple structure of the factor model (i.e., items loading only on their respective latent factors) and model fit indexes that demonstrate an acceptable fit between the observed and reproduced interitem covariance matrices both provided evidence of construct validity. First, there was convergence among items hypothesised to represent each social motivational orientation. Second, although there were significant correlations among the three social orientations, these correlations were only moderate and therefore still provided evidence of discrimination between the latent factors. Third, although the fit of the proposed two factor model was not adequate the final three factor structure is partially consistent with hypothesised factor structure. That is, there was a distinction between an affiliation orientation and a validation orientation, however, rather than a unidimensional validation orientation this orientation was comprised of two forms of validation - recognition and status. Finally, it was decided to retain the three-first-order factor model of social motivational orientations in sport (model 3) for future analyses for several reasons. First, both model 3 and 4 demonstrated acceptable fit to the data and there was very little difference in the fit of the two models. Second, the acceptable fit of model 3 to the data provided evidence of the factorial validity of the SMOSS. Third, there are statistical limitations in assessing the fit of a higher order factor structure with only two first order factors. Fourth, although the two social validation factors had different foci, both orientations were consistent with the social validation orientation conceptualisation. Fifth, examination of correlates of each social validation orientation was of conceptual interest because the different ways in which individuals viewed social validation might lead to a refinement in the social motivation model regarding the psychological processes underpinning cognition, affect, and behaviour in youth sport.
Figure 9. Standardised parameter estimates from CFA for the three-first-order factor correlated model for the SMOSS data (validation sub sample).
Model fit indices, Scaled χ² (df = 66, N = 165) = 110.10, p < .001, BBNNFI = .90, RCFI = .91, RMSEA = .09.
Part two: Cross domain stability of social motivational orientations

Purpose: To examine the stability of social motivational orientations factor structure across sport and education domains.

Descriptive statistics

The means, standard deviations, skewness, kurtosis, and bivariate correlations for each item in the SMOSE for both samples are presented in Table 10. For each item, except item 5, the mean was at or above the scale midpoint indicating general endorsement of each of the scale items. All items exhibited some skewness and kurtosis, however, the values did not depart significantly from a normal distribution. With regard to multivariate normal distribution Mardia’s coefficient (sub sample A = 38.24, sub sample B = 37.18) and the normalised estimate (sub sample A = 13.72, sub sample B = 12.67) were slightly above typically accepted values therefore the robust method of estimation and statistics option was employed in the subsequent single group CFA. In the multiple group CFA, the robust estimation method and statistics option are not currently available, therefore, the maximum likelihood method of estimation was employed. This method has been shown to be relatively robust with a range of deviations from normality (Chou & Bentler, 1995).

An inspection of the bivariate correlations among items provided an initial examination of the discriminant and convergent validity of the SMOSE (see Table 10). As with the sport data, an examination of the pattern of correlations did not support the proposed two factor structure (i.e., affiliation and social validation) but did indicate the three factor structure identified in the sport data in which the social validation orientation was represented by two separate factors, social recognition and social status. To allow direct comparison with the sport version of the scale only those items comprising the final model in the sport data were included in the analysis of the school data. That is, items 1, 14 and 15 were omitted from subsequent analyses. The average correlation among items proposed to assess an affiliation orientation was moderate (sub sample A \( r = .44 \), sub sample B \( r = .52 \)) and demonstrated moderate convergent validity for the items comprising this sub scale. Support for the discriminant validity of this sub scale was provided by low average correlations among items comprising the social recognition (sub sample A \( r = .16 \), sub sample B \( r = .21 \)) and social status (sub sample A \( r = .15 \), sub sample B \( r = .21 \)) sub scales. The average correlations for the items comprising the social recognition (sub sample A \( r = .46 \), sub sample B \( r = .45 \)) and social status sub scales (sub sample A \( r = .63 \), sub sample B \( r = .46 \)) also demonstrated convergent validity among these items. The average interitem correlation between these two sub scales was low (sub sample A \( r = .11 \), sub sample B \( r = .19 \)) supporting the discrimination of these two sub scales.
Table 10. Descriptive statistics for SMOSE items.

<table>
<thead>
<tr>
<th>Item</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>7</th>
<th>11</th>
<th>12</th>
<th>15</th>
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<th>9</th>
<th>10</th>
<th>13</th>
<th>3</th>
<th>5</th>
<th>8</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – make friends</td>
<td>-</td>
<td>.60</td>
<td>.40</td>
<td>.57</td>
<td>.56</td>
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<td>.17</td>
<td>.32</td>
<td>.15ns</td>
<td>.36</td>
<td>.08ns</td>
<td>.27</td>
<td>.21</td>
</tr>
<tr>
<td>4 – laugh together</td>
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<td>.55</td>
<td>.26</td>
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<td>.30</td>
<td>-.02ns</td>
<td>.25</td>
<td>.22</td>
<td></td>
</tr>
<tr>
<td>6 – socialise outside school</td>
<td>.31</td>
<td>-.34</td>
<td>-.45</td>
<td>.37</td>
<td>.44</td>
<td>.29</td>
<td>.26</td>
<td>.24</td>
<td>.15ns</td>
<td>.09ns</td>
<td>.18</td>
<td>.03ns</td>
<td>.23</td>
<td>.18</td>
<td></td>
</tr>
<tr>
<td>7 – fun with others</td>
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<td>.39</td>
<td>-.60</td>
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<td>.23</td>
<td>.29</td>
<td>.07ns</td>
<td>.30</td>
<td>.31</td>
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<tr>
<td>11 – enjoy time with others</td>
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<td>.38</td>
<td>.14ns</td>
<td>.35</td>
<td>.28</td>
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<tr>
<td>12 – friends with others</td>
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<td>.43</td>
<td>.35</td>
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<td>.28</td>
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<td>.26</td>
<td>.02ns</td>
<td>.23</td>
<td>.19</td>
<td></td>
</tr>
<tr>
<td>15 – hanging out is fun</td>
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<td>.26</td>
<td>.41</td>
<td>.42</td>
<td>.42</td>
<td>-.23</td>
<td>.17</td>
<td>.18</td>
<td>.12ns</td>
<td>.32</td>
<td>.19</td>
<td>.34</td>
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</tr>
<tr>
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<td>.15</td>
<td>.16</td>
<td>.14ns</td>
<td>.18</td>
<td>.16</td>
<td>.01ns</td>
<td>-.30</td>
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<td>.14ns</td>
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<tr>
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<td>.28</td>
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<td>.22</td>
<td>.23</td>
<td>.25</td>
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<td>.18</td>
<td>.03ns</td>
<td>.26</td>
<td>.31</td>
<td>.21</td>
<td>-.01ns</td>
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<td>.10ns</td>
<td>.15ns</td>
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<tr>
<td>13 – ability impresses others</td>
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<td>.16</td>
<td>.11ns</td>
<td>.17</td>
<td>.19</td>
<td>.20</td>
<td>.11ns</td>
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<td>-.21</td>
<td>.25</td>
<td>.19</td>
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<tr>
<td>3 – belong to popular group</td>
<td>.12ns</td>
<td>.27</td>
<td>.15</td>
<td>.15ns</td>
<td>.16</td>
<td>.08ns</td>
<td>.07ns</td>
<td>.16</td>
<td>.05ns</td>
<td>.13ns</td>
<td>.17</td>
<td>-.25</td>
<td>.78</td>
<td>.56</td>
<td></td>
</tr>
<tr>
<td>5 – centre of attention</td>
<td>.09ns</td>
<td>.29</td>
<td>.18</td>
<td>.19</td>
<td>.17</td>
<td>.05ns</td>
<td>.07ns</td>
<td>.05ns</td>
<td>.11ns</td>
<td>.17</td>
<td>.23</td>
<td>.63</td>
<td>-.35</td>
<td>.39</td>
<td></td>
</tr>
<tr>
<td>8 – part of ‘in’ crowd</td>
<td>.10ns</td>
<td>.25</td>
<td>.15</td>
<td>.11ns</td>
<td>.23</td>
<td>.05ns</td>
<td>.05ns</td>
<td>.02ns</td>
<td>.01ns</td>
<td>.06ns</td>
<td>.03ns</td>
<td>.68</td>
<td>.58</td>
<td>-.59</td>
<td></td>
</tr>
<tr>
<td>14 – popular student</td>
<td>.12ns</td>
<td>.22</td>
<td>.18</td>
<td>.15</td>
<td>.18</td>
<td>.05ns</td>
<td>.04ns</td>
<td>.08ns</td>
<td>.16</td>
<td>.29</td>
<td>.19</td>
<td>.63</td>
<td>.64</td>
<td>.60</td>
<td>-</td>
</tr>
</tbody>
</table>

**Calibration sub sample**

| Mean                   | 4.22| 4.22| 3.94| 4.00| 4.00| 4.00| 3.84| 3.87| 3.09| 3.48| 3.20| 3.08| 2.46| 2.95| 2.97 |
| Standard Deviation     | .71 | .70| .79| .75| .77| .79| .76| .77| .84| .82| .82| .98| 1.04| 1.05| .99 |
| Skewness               | -.82| -.83| -.84| -.88| -.105| -.96| -.21| -.58| -.06| -.10| -.15| -.06| .52 | .10 | .06 |
| Kurtosis               | 1.50| 1.79| 1.45| 2.11| 2.25| 1.82| -.32| .70| .09| .13| .46| .03| -.14| -.39| -.12 |

**Validation sub sample**

| Standard Deviation     | .75 | .80| .82| .79| .80| .77| .79| .79| .88| .76| .84| .98| 1.01| 1.05| 1.02 |
| Skewness               | -.12| -.18| -.80| -.95| -.69| -.79| -.66| -.117| -.07| -.05| .01| -.17| .48 | -.01| -.11 |
| Kurtosis               | 2.88| 2.26| 1.53| 1.83| 1.10| 1.70| 1.19| 2.72| .10| -.33| .16| -.12| .10 | -.43| -.31 |

**Note.** Bivariate correlations for calibration sub sample (n = 182) appear below the diagonal and for the validation sub sample (n = 166) above the diagonal.

*ns not significant (p > .05).

Mean item scores for sub sample A were not significantly different from those from sub sample B (Wilks Lambda = .97, F (15, 302) = .66, p > .05).
Preliminary confirmatory factor analysis

Before it was reasonable to examine the cross domain stability of social motivational orientations it was necessary to establish the factorial structure of the SMOSE on its own. Confirmatory factor analysis on data from Sub sample A was employed to determine whether the three-first-order correlated factor model established with the sport data was a reasonable model for the education data. Examination of the fit indices indicated the model provide a good fit to the data (Scaled $\chi^2 (df = 51, N = 173) = 59.54, p = .193, \text{BBNNFI} = .96, \text{RCFI} = .98, \text{RMSEA} = .05$. For this model the chi square to degrees of freedom ratio was 1.17, the fit indices were above .90, and the residuals were small (AASR = .04, AODSR = .05, largest individual residual = .20). All parameter estimates were significant and the factor loadings of items on their respective latent variables were moderate to large ranging from .48 to .85. Indicating the latent variables were explaining a significant amount of variance in the observed variables (range 23% to 72%). The standard solution of parameter estimates is presented in Figure 10. The correlations between the latent factors were small, affiliation and recognition = .39, affiliation and status = .27, and recognition and status = .15. Having established evidence for the appropriateness of the three factor model in education, the cross domain stability hypothesis was tested employing multiple group confirmatory factor analysis (MGCFA).

Multiple group confirmatory factor analysis

In the present investigation, social motivational orientations were proposed to be dispositions that are relatively stable across domains. That is, the same orientations were expected in sport and education. Therefore, it was hypothesised that the factor structure of the social motivational orientation scales would be the same for sport and education. To test this hypothesis the extent to which there was invariance in the parameters of the measurement model across data from sport and education was examined through MGCFA. In multiple group analysis the fit of an ordinary SEM model to two or more samples is assessed in a single run, simultaneously for all samples (Bentler, 1995; Byrne, 1994; Kline, 1998; Dunn, Everitt, & Pickles, 1994; Kaplan, 1995; Marsh, 1994). Although separate parameter estimates are generated for each sample, only one set of fit indices is estimated. These indices provide information about the extent to which the model fits both samples of data. As with CFA models in general, it is recommended that researchers employ subjective indicators of fit in addition to tests of significance (Marsh, 1994).

MGCFA involves fitting a series of nested models that increasingly constrain the parameters of the model to be equal across the samples. Comparison between the fit of these constrained models and that of an unconstrained baseline model allows researchers to determine the extent of equality or invariance of factor loadings, variances, and covariances,
Figure 10. Standardised parameter estimates from MGCFA for the three-first-order factor correlated model for the SMOSE data (calibration sub sample).
Model fit indices, Scaled $\chi^2 (df = 51, N = 173) = 59.54, p = .19$, BBNNFI = .96, RCFI = .98, RMSEA = .05.
and error variances across the multiple samples (Bentler, 1995; Kline, 1998; Dunn, et al, 1994; Kaplan, 1995). The order in which the invariance constraints are imposed will impact the resulting changes in chi square (Marsh, 1994) and although it has been suggested that no particular order can be argued to be 'best' in all situations (Marsh, 1994), an a priori ordering is important.

The three-first-order correlated factor measurement model derived from the confirmatory factor analysis of the SMOSS in part one was employed in the MGCFA. The fit of this model to the data from both the SMOSS and SMOSE was assessed simultaneously. Based on the procedures outlined in Bentler (1995) and Kline (1998) and recommendations of several other authors (e.g., Byrne, 1994; Marsh, 1994) the fit of the following series of models differing the number and type of constraints placed on the parameters across groups was examined:

1. \( M_b \) - A totally non-invariant model (baseline) with no between group invariance constraints on estimated parameters.
2. \( M_l \) - Factor loadings invariant across groups.
3. \( M_{lec} \) - Factor loadings, factor correlations, and factor variances invariant across groups.
4. \( M_e \) - A totally invariant model in which all parameters (factor loadings, factor correlations, factor variances, and uniquenesses) are invariant across groups.

First, the fit of the model to the data of both groups calculated simultaneously with no cross group constraints was determined. This is known as the baseline model (\( M_b \)) against which the fit of all other models is compared. This model is the least restrictive of the models. Only the form of the model, the pattern of fixed and non-fixed parameters, is invariant across groups. Second, the first hypothesis of factor loading invariance was tested. As Bentler (1995) stated "If the observed variables are measuring the same factors in each of the groups, the regression of the variables on these factors, the factor loadings, ought to be the same" (p. 151). If the fit of this constrained model (\( M_l \)) is not significantly worse than the baseline unconstrained model then there is support for factorial invariance across samples. Third, the hypothesis of invariance of factor loadings, and factor variances and covariances was also tested. In this model (\( M_{lec} \)) the factor loadings, variances, and covariances were constrained to be equal across the sport and education data. Again if the fit of this constrained model is no worse than that of the baseline model then "the factors are more specifically similar in the various groups" (Bentler, 1995, p. 151). Fourth, the final hypothesis tested is a fully constrained model (\( M_e \)) in which factor loadings, variances, covariances and error variances are constrained to be equal. If the model fit is no worse than the unconstrained model then there is support for the parameters of the model being equal across groups. That is, there is support for
a consistent factor structure of the measurement model of social motivational orientations across sport and education domains.

In MGCFA calculation of the fit indices is based on the assumption that the samples are independent, therefore, in this investigation sport data from Sub sample A and education data from Sub sample B were used in the analysis. Further, although it might still be argued that these two sub samples are not independent of each other if the residuals which are not based on the assumption of independent groups are small then the model fits, no matter what the statistics say (Personal communication Bentler, 2001). The results of the MGCFA are presented in Table 11. The baseline model demonstrated acceptable fit to the data ($\chi^2$ (df = 102, N = 334) = 198.92, p < .001, BBNNFI = .92, CFI = .94, RMSEA = .05. The chi square-to-degrees of freedom ratio was less than 3, the fit indices were greater than .90, and the residuals were small (sport AASR = .04, AODSR = .05, largest individual residual = .18; education AASR = .04, AODSR = .05, largest individual residual = .17). Examination of the fit indices for all three constrained models indicated these models all demonstrated acceptable fit (see Table 11), however, to determine the consistency or stability of the measurement models across the two domains the change in overall chi square was examined. The change in overall chi square between the baseline model and $M_\text{fl}$ (i.e., factor loadings constrained to be equal) ($\Delta\chi^2 = 29.87, \Delta \text{df} = 9, p < .05$) was statistically significant suggesting that the factor loadings were not the same across domains and that the items loaded differently depending on the context in which they were assessed. The change in chi squares for the subsequent models with additional constraints were also statistically significant.

These findings suggest that although the form of the social motivational orientation scales is the same in sport and education, that is, that there are three social motivational orientations, the items may load differently on the respective factors. However, a closer examination $M_\text{fl}$ data specifically the residuals and LeGrange Multiplier test (identifies the specific constraints that are incongruent across models) revealed that only one item, item 5 “I am the centre of attention” appeared to differ across sport and education. Specifically, the predicted decrease in overall chi square by releasing the factor loading equality constraint on item 5 was 20.51, p < .0001. Further, the largest individual residual in the education data and the second largest in the sport data related to the variance of item 5 (education = -.29, sport = .15). Releasing this constraint, that is, allowing this item to load differently on the social status factor in sport and education resulted in substantially different standardised factor loadings for this item in the sport and education models (sport = .71, education = .32). Freeing this constraint also produced non significant change in chi square between the baseline model and $M_\text{fl}$ ($\Delta\chi^2 = 8.96, \Delta \text{df} = 8, p > .05$) (see Table 11). The changes in chi square in subsequent models (i.e., $M_{\text{flav}}$ and $M_\text{c}$) however, were statistically significant. This implies that, with the
Table 11. Fit indices and residuals from MGCFA for SMOSS and SMOSE data.

<table>
<thead>
<tr>
<th>Model*</th>
<th>( \chi^2 )</th>
<th>( p )</th>
<th>df</th>
<th>( \chi^2/df )</th>
<th>( \Delta \chi^2 )</th>
<th>( \Delta df )</th>
<th>BBNNFI(^b)</th>
<th>CFI(^c)</th>
<th>RMSEA(^d)</th>
<th>AASR(^e)sport</th>
<th>AASR(^e)ed</th>
<th>AODSR(^f)sport</th>
<th>AODSR(^f)ed</th>
<th>Largest* (g)sport</th>
<th>Largest* (g)ed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sequential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport</td>
<td>110.16</td>
<td>&lt; .001</td>
<td>51</td>
<td>2.16</td>
<td></td>
<td>.91</td>
<td>.93</td>
<td>.08</td>
<td>.04</td>
<td>.05</td>
<td>.05</td>
<td>.05</td>
<td>.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>88.76</td>
<td>&lt; .001</td>
<td>51</td>
<td>1.74</td>
<td></td>
<td>.94</td>
<td>.95</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.05</td>
<td>.05</td>
<td>.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simultaneous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M(_g)</td>
<td>198.92</td>
<td>&lt; .001</td>
<td>102</td>
<td>1.95</td>
<td></td>
<td>.92</td>
<td>.94</td>
<td>.05</td>
<td>.04</td>
<td>.05</td>
<td>.05</td>
<td>.05</td>
<td>.18</td>
<td>.17</td>
<td></td>
</tr>
<tr>
<td>M(_f)</td>
<td>228.79</td>
<td>&lt; .001</td>
<td>111</td>
<td>2.06</td>
<td>29.87*</td>
<td>9</td>
<td>.91</td>
<td>.92</td>
<td>.06</td>
<td>.06</td>
<td>.06</td>
<td>.07</td>
<td>.07</td>
<td>.16</td>
<td>- .29</td>
</tr>
<tr>
<td>M(_{fev})</td>
<td>246.62</td>
<td>&lt; .001</td>
<td>117</td>
<td>2.11</td>
<td>17.83*</td>
<td>6</td>
<td>.91</td>
<td>.92</td>
<td>.06</td>
<td>.08</td>
<td>.09</td>
<td>.09</td>
<td>.09</td>
<td>.21</td>
<td>- .27</td>
</tr>
<tr>
<td>M(_{c})</td>
<td>266.83</td>
<td>&lt; .001</td>
<td>126</td>
<td>2.12</td>
<td>20.21*</td>
<td>9</td>
<td>.91</td>
<td>.91</td>
<td>.06</td>
<td>.08</td>
<td>.09</td>
<td>.09</td>
<td>.09</td>
<td>.26</td>
<td>- .26</td>
</tr>
<tr>
<td>M(_{g})(^1)</td>
<td>207.88</td>
<td>&lt; .001</td>
<td>110</td>
<td>1.89</td>
<td>8.96*</td>
<td>8</td>
<td>.93</td>
<td>.94</td>
<td>.05</td>
<td>.05</td>
<td>.05</td>
<td>.06</td>
<td>.05</td>
<td>.19</td>
<td>.20</td>
</tr>
<tr>
<td>M(_{fev})(^1)</td>
<td>227.74</td>
<td>&lt; .001</td>
<td>116</td>
<td>1.96</td>
<td>19.86*</td>
<td>6</td>
<td>.92</td>
<td>.93</td>
<td>.05</td>
<td>.07</td>
<td>.08</td>
<td>.08</td>
<td>.08</td>
<td>.21</td>
<td>- .26</td>
</tr>
<tr>
<td>M(_{c})(^1)</td>
<td>251.48</td>
<td>&lt; .001</td>
<td>125</td>
<td>2.01</td>
<td>23.74*</td>
<td>9</td>
<td>.91</td>
<td>.93</td>
<td>.06</td>
<td>.08</td>
<td>.07</td>
<td>.08</td>
<td>.08</td>
<td>.26</td>
<td>- .26</td>
</tr>
</tbody>
</table>

Note. Calibration sub sample of sport data (4 participants were dropped from the analysis due to incomplete data, n = 178) and validation sub sample of education data (10 participants were dropped from the analysis due to incomplete data, n = 156) were used in this analysis. Confirmatory factor analyses were performed on each data set separately first (i.e., sequential fit indices) and then simultaneously with model parameters constrained to be equal.

* Models: M\(_g\) = baseline model (no constraints), M\(_f\) = factor loadings constrained, M\(_{fev}\) = factor loadings, factor variances, factor covariances constrained, M\(_c\) = fully constrained model.\(^1\) constraint for item 5 factor loading removed.

\(^b\) Bentler-Bonett Non Normed fit index. \(^c\) Comparative fit index. \(^d\) Residual mean square error of approximation index.

\(^e\) Average absolute standardised residual. \(^f\) Average off-diagonal absolute standardised residual. \(^g\) Largest individual residual.

\(*\) \( p < .05\), \(^{**}\) not significant (\( p > .05\)).
exception of item 5, the factor loadings as a set do not differ significantly across the sport and education samples. Factor variances, covariances and error variances, however, do differ across the two contexts. Overall, these results suggest that the scales measure three factors (i.e., social motivational orientations) in comparable ways for sport and education.

Cross domain correlations

In addition to providing support for the cross domain stability of the form of the social motivational orientations scale, the correlations between sport and school versions of the respective orientations were calculated. This analysis provided an indication of the extent to which social motivational orientations generalised from one domain, i.e., sport, to another domain, i.e., school. Moderate to high cross domain correlations would provide evidence of the stability of social motivational orientations and support the view that they are relatively stable dispositions that individuals bring with them to situations. The correlations between sport and school perceptions of belonging and interest were also calculated and due to context specific nature of these constructs these correlations were expected to be less stable than those among social orientations.

Bivariate correlations were calculated between sport and school scores on three social motivational orientations, perceived belonging, and interest/enjoyment employing the large data sample (n = 348). The cross domain correlations for the social motivational orientations were moderate (social status $r = .67$, affiliation $r = .40$) but weaker in the case of social recognition ($r = .32$) thus providing some support for the cross domain stability of the motivational orientations. As expected these correlations were higher than the cross domain correlation for interest ($r = .19$) again supporting the dispositional nature of the orientations. The correlation between sport and school perceptions of belonging, however, was moderate and higher than expected ($r = .52$) suggesting some cross domain stability of the perception of connections with others.

In summary, empirical support was provided for the stability of the form of the social motivational orientation scale across sport and education domains. Further, through the cross domain correlations some empirical support was provided for the relative stability of social motivation orientations across sport and school.
Part three: Perceived belonging in sport

Purpose: To evaluate the psychometric properties of a measure of perceived belonging in sport. Specifically, the purpose was to examine the structural validity of the perceived belonging in sport scale (PBS).

Descriptive statistics

The means, standard deviations, skewness, kurtosis, and bivariate correlations for each item in the PBS for both calibration and validation samples are presented in Table 12. In both samples the mean for each item was above the scale midpoint indicating general endorsement of each of the scale items. The skewness and kurtosis values for all items were minimal and did not depart substantially from zero, indicating an acceptable distribution of data. With regard to multivariate normal distribution Mardia’s coefficient (sub sample A = 30.43, sub sample B = 24.12) and the normalised estimate (sub sample A = 12.92, sub sample B = 9.91) were slightly above typically accepted values therefore the robust estimation method and statistics option was employed in subsequent analyses.

The bivariate correlations amongst the positively worded items (i.e., 1, 2, 4, 5, 8, 9, 11) were all moderate and positive (average sub sample A $r = .44$, sub sample B $r = .43$). Similarly positive and moderate correlations were apparent amongst the negatively worded items (i.e., 3, 6, 7, 10) (average sub sample A $r = .48$, sub sample B $r = .51$). The correlations amongst the items between these two groups were negative as expected, however, the size of the correlations was generally small (average Sub sample A $r = -.23$, sub sample B $r = -.21$). This was particularly the case for item 10. Due to its low correlations with other items item 10 was excluded from subsequent analyses. The low correlations between the positively and negatively worded items and higher correlations within the positively worded items and within the negatively worded items provided evidence that the scale may not be unidimensional as Goodenow (1993a) presented but rather the relationship among items might be better represented by a two dimensional model.

Calibration confirmatory factor analyses

In her research Goodenow (1993a) operationalised perceived belonging as a unidimensional construct and the PSSM was interpreted as representing one factor. She did not, however, actually test the dimensionality of the PSSM, therefore, it was deemed necessary to conduct a factor analysis of the sport version of this scale to confirm the hypothesised single factor structure. Confirmatory factor analysis was employed to assess the fit of the proposed measurement model to the PBS data from sub sample A. A summary of the fit indices is presented in Table 13. A one-factor measurement model (model 1) with all 10 items loading
Table 12. Descriptive statistics for PBS items.

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - part of team</td>
<td>-</td>
<td>.58</td>
<td>.36</td>
<td>.44</td>
<td>.59</td>
<td>.52</td>
<td>.61</td>
<td>- .39</td>
<td>- .35</td>
<td>- .31</td>
</tr>
<tr>
<td>2 - opinions taken seriously</td>
<td>.54</td>
<td>-</td>
<td>.28</td>
<td>.46</td>
<td>.39</td>
<td>.43</td>
<td>.43</td>
<td>- .25</td>
<td>- .17</td>
<td>- .21</td>
</tr>
<tr>
<td>4 - coach respects me</td>
<td>.36</td>
<td>.27</td>
<td>-</td>
<td>.33</td>
<td>.29</td>
<td>.22</td>
<td>.26</td>
<td>- .18</td>
<td>- .31</td>
<td>- .14</td>
</tr>
<tr>
<td>5 - included in activities</td>
<td>.54</td>
<td>.47</td>
<td>.47</td>
<td>-</td>
<td>.31</td>
<td>.33</td>
<td>.42</td>
<td>- .09&lt;sup&gt;ns&lt;/sup&gt;</td>
<td>- .09&lt;sup&gt;ns&lt;/sup&gt;</td>
<td>- .13&lt;sup&gt;ns&lt;/sup&gt;</td>
</tr>
<tr>
<td>8 - can be myself</td>
<td>.53</td>
<td>.34</td>
<td>.43</td>
<td>.44</td>
<td>-</td>
<td>.57</td>
<td>.51</td>
<td>- .23</td>
<td>- .17</td>
<td>- .18</td>
</tr>
<tr>
<td>9 - liked the way I am</td>
<td>.50</td>
<td>.47</td>
<td>.29</td>
<td>.40</td>
<td>.56</td>
<td>-</td>
<td>.61</td>
<td>- .23</td>
<td>- .24</td>
<td>- .04&lt;sup&gt;ns&lt;/sup&gt;</td>
</tr>
<tr>
<td>11 - friendly to me</td>
<td>.51</td>
<td>.41</td>
<td>.31</td>
<td>.33</td>
<td>.54</td>
<td>.60</td>
<td>-</td>
<td>- .32</td>
<td>- .29</td>
<td>- .20</td>
</tr>
</tbody>
</table>

| 3<sup>a</sup> - feel don't belong | - .12<sup>ns</sup> | - .14<sup>ns</sup> | - .23 | - .15<sup>ns</sup> | - .09<sup>ns</sup> | - .22 | - .13<sup>ns</sup> | -   | .58 | .48 | .32 |
| 6<sup>a</sup> - wish on different team | - .28 | - .19 | - .35 | - .21 | - .21 | - .22 | - .35 | .43 | -   | .46 | .35 |
| 7<sup>a</sup> - coach not interested | - .23 | - .27 | - .46 | - .26 | - .24 | - .24 | - .23 | .50 | .52 | -   | .30 |
| 10<sup>a</sup> - feel different   | - .01<sup>ns</sup> | - .16 | .03<sup>ns</sup> | - .05<sup>ns</sup> | - .08<sup>ns</sup> | - .20 | - .18 | .50 | .28 | .30 | -   |

**Calibration sub sample**

<table>
<thead>
<tr>
<th>Mean</th>
<th>3.47</th>
<th>3.08</th>
<th>3.19</th>
<th>3.05</th>
<th>3.30</th>
<th>3.36</th>
<th>3.78</th>
<th>3.66</th>
<th>3.89</th>
<th>3.97</th>
<th>3.69</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Deviation</td>
<td>1.05</td>
<td>1.01</td>
<td>1.17</td>
<td>1.26</td>
<td>1.12</td>
<td>1.13</td>
<td>1.01</td>
<td>1.15</td>
<td>1.17</td>
<td>1.19</td>
<td>1.11</td>
</tr>
<tr>
<td>Skewness</td>
<td>- .23</td>
<td>- .01</td>
<td>- .17</td>
<td>- .14</td>
<td>- .11</td>
<td>- .26</td>
<td>- .35</td>
<td>.44</td>
<td>- .73</td>
<td>- .91</td>
<td>- .48</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>- .06</td>
<td>- .09</td>
<td>- .38</td>
<td>- .84</td>
<td>- .37</td>
<td>- .23</td>
<td>- .30</td>
<td>- .46</td>
<td>- .27</td>
<td>- .04</td>
<td>- .38</td>
</tr>
</tbody>
</table>

**Validation sub sample**

<table>
<thead>
<tr>
<th>Mean</th>
<th>3.45</th>
<th>3.13</th>
<th>3.17</th>
<th>3.01</th>
<th>3.25</th>
<th>3.42</th>
<th>3.76</th>
<th>3.63</th>
<th>3.93</th>
<th>3.69</th>
<th>3.31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Deviation</td>
<td>1.14</td>
<td>1.01</td>
<td>1.17</td>
<td>1.32</td>
<td>1.17</td>
<td>1.13</td>
<td>1.07</td>
<td>1.22</td>
<td>1.11</td>
<td>1.27</td>
<td>1.26</td>
</tr>
<tr>
<td>Skewness</td>
<td>- .24</td>
<td>- .13</td>
<td>- .20</td>
<td>- .08</td>
<td>- .20</td>
<td>- .47</td>
<td>- .61</td>
<td>- .54</td>
<td>- .78</td>
<td>- .64</td>
<td>- .26</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>- .48</td>
<td>- .18</td>
<td>- .40</td>
<td>- 1.01</td>
<td>- .54</td>
<td>- .13</td>
<td>.09</td>
<td>- .52</td>
<td>- .05</td>
<td>- .52</td>
<td>- .80</td>
</tr>
</tbody>
</table>

**Note.** Bivariate correlations for calibration sub sample (n = 182) appear below the diagonal and for the validation sub sample (n = 166) above the diagonal.

<sup>a</sup> correlations before item scores reversed, means after item scores reversed
<sup>ns</sup> not significant (p > .05).

Mean items scores in sub sample A were not significantly different from those in sub sample B (Wilks Lambda = .94, F (11, 324) = 1.77, p > .05).
on one latent belonging factor (see Figure 11) was specified a prior and the fit assessed. This was a test of Goodenow’s assumption that the perceived belonging scale was unidimensional.

Figure 11. Proposed one factor model for perceived belonging in sport scale.

The fit of the one-factor model was clearly poor, Scaled $\chi^2 (df = 35, N = 173) = 133.40$, $p < .001$, BBNNFI = .69, RCFI = .77, RMSEA = .16. The chi square-to-degrees of freedom ratio was greater than 3 and the fit indices were less than .90. The residuals were moderate in size, average absolute standardised residual = .07, average off-diagonal absolute standardised residual = .08, and the largest individual residual = .38. The largest residuals indicated variance among the negatively worded items was not adequately explained by the one factor model. One factor did not appear to adequately represent the pattern of relationships among the items of the PBS.

The conceptual basis of the scale and examination of the item content did not reveal any justification for a model containing more than one factor. Examination of the residuals and correlations, however, revealed that the misfit was due to a distinction between positively and negatively worded items. To propose and test a two factor correlated model with positively worded items forming one factor and negatively worded items forming a second factor, however, would not be consistent with the way in which variance is partitioned in common
Table 13. Fit indices and residuals for models of PBS data.

<table>
<thead>
<tr>
<th>Model</th>
<th>Scaled $\chi^2$</th>
<th>$p$</th>
<th>$df$</th>
<th>$\chi^2$/df</th>
<th>BBNNFI$^b$</th>
<th>RCFI$^c$</th>
<th>RMSEA$^d$</th>
<th>AASR$^e$</th>
<th>AODSR$^f$</th>
<th>Largest$^g$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration</td>
<td>1</td>
<td>133.36</td>
<td>&lt; .001</td>
<td>35</td>
<td>3.81</td>
<td>.69</td>
<td>.78</td>
<td>.16</td>
<td>.07</td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>64.63</td>
<td>&lt; .001</td>
<td>31</td>
<td>2.08</td>
<td>.88</td>
<td>.92</td>
<td>.10</td>
<td>.04</td>
<td>.05</td>
</tr>
<tr>
<td>Validation</td>
<td>2</td>
<td>64.41</td>
<td>.03</td>
<td>45</td>
<td>1.43</td>
<td>.93</td>
<td>.95</td>
<td>.07</td>
<td>.08</td>
<td>.08</td>
</tr>
</tbody>
</table>

Note. Calibration sub sample (9 participants were dropped from the analysis due to incomplete data, n = 173). Validation sub sample (4 participants were dropped from the analysis due to incomplete data, n = 162).

$^a$Model 1 = one-factor model, Model 2 = one-factor model with correlated error terms for negatively worded items and for items 4 & 7.

$^b$Bentler-Bonnet non-normed fit index. $^c$Robust Comparative fit index. $^d$Residual mean square error of approximation index.

$^e$Average absolute standardised residual. $^f$Average off-diagonal absolute standardised residual. $^g$Largest individual residual.

Table 14. Standardised parameter estimates for PBS data.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Calibration</th>
<th>Validation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 2</td>
<td>R square</td>
</tr>
<tr>
<td>F1 $\rightarrow$ Item 1 (part of team)</td>
<td>.75</td>
<td>.56</td>
</tr>
<tr>
<td>F1 $\rightarrow$ Item 2 (opinions taken seriously)</td>
<td>.62</td>
<td>.38</td>
</tr>
<tr>
<td>F1 $\rightarrow$ Item 3 (feel don't belong)</td>
<td>.20</td>
<td>.04</td>
</tr>
<tr>
<td>F1 $\rightarrow$ Item 4 (coach respects me)</td>
<td>.51</td>
<td>.26</td>
</tr>
<tr>
<td>F1 $\rightarrow$ Item 5 (included in activities)</td>
<td>.63</td>
<td>.40</td>
</tr>
<tr>
<td>F1 $\rightarrow$ Item 6 (wish on different team)</td>
<td>.37</td>
<td>.14</td>
</tr>
<tr>
<td>F1 $\rightarrow$ Item 7 (coach not interested)</td>
<td>.37</td>
<td>.14</td>
</tr>
<tr>
<td>F1 $\rightarrow$ Item 8 (can be myself)</td>
<td>.73</td>
<td>.53</td>
</tr>
<tr>
<td>F1 $\rightarrow$ Item 9 (liked the way I am)</td>
<td>.73</td>
<td>.54</td>
</tr>
<tr>
<td>F1 $\rightarrow$ Item 11 (friendly to me)</td>
<td>.71</td>
<td>.51</td>
</tr>
</tbody>
</table>

Note. All parameter estimates were significant ($p < .05$).
factor models. That is, to correlate the factors assumes that the variance is common to the factors. In this case, however, it was unique variance that was unaccounted for. Variance unique to the method of measurement (i.e., whether the items were positively or negatively worded). A more appropriate method of accounting for this unique variance was to develop a theory of error measurement and to correlate error terms based on this theory. Therefore, a second model was proposed and fit to the data evaluated.

The second model (model 2) was also a one factor model with all 10 items loading on one latent belonging factor, however four error correlations were added. It was proposed that the three negatively worded items would share variance due to the method of measurement that was unique to the belonging latent factor and therefore the error terms for these three items were allowed to correlate. One additional correlation was also added. Specifically, the error terms for two items (items 4 and 7) were also allowed to correlate. The addition of this parameter was justified because both items made reference to the coach and hence would be expected to share variance unique to that captured in the latent perceived belonging factor.

Model 2 demonstrated acceptable fit to the data, Scaled $\chi^2$ ($df = 31, N = 173$) = 64.63, $p < .001$, BBNNFI = .88, RCFI = .92, RMSEA = .10. All but two of the fit indices met the criteria for acceptable fit to the data. The chi square to degrees of freedom ratio was 2.08. One of the fit indices was greater than .90 while the other approached this criterion. The RMSEA was slightly above the criterion for acceptable fit, however, the average absolute standardised residual was .04 and the average off-diagonal absolute standardised residual was .05, both indicating acceptable model fit to the data. Model 2 adequately accounted for the relationships among the items. All parameter estimates were significant and the factor loadings of most items were moderate to large (see Table 14), however, the loadings of the negatively worded items were much smaller than those of the positively worded items ranging from .20 to .37. This indicated that participants may not have responded to negatively worded items about belonging in the same way as they responded to positively worded items. The standard solution of parameter estimates is presented in Figure 12.

Validation confirmatory factor analyses

To assess the stability of the parameter estimates and validity of the calibration model cross-validation confirmatory factor analysis was employed. The fit of model 2 from the calibration analyses to the data from sub sample B was evaluated. The unstandardised path coefficients for the factor loadings, variances, and covariances from the calibration model were used as the parameter estimates for the validation models. The fit of this model is summarised in Table 13. Model 2 provided an acceptable fit to the data, Scaled $\chi^2$ ($df = 45, N = 162$) = 64.41, $p = .03$, BBNNFI = .93, RCFI = .95, RMSEA = .07. For this model the chi square to degrees of freedom ratio was 1.43, the fit indices were above .90, and the residuals were small.
Specifically, the average absolute standardised residual was .08, average off-diagonal absolute standardised residual was .08, and the largest individual residual was .25.

Figure 12. Standardised parameter estimates for CFA for perceived belonging in sport scale (calibration sub sample)
Model fit indices, Scaled $\chi^2 (df = 31, N = 173) = 64.63, p < .001$, BBNNFI = .88, RCFI = .92, RMSEA = .10.

In summary, the results of the descriptive analyses and confirmatory factor analyses provided evidence of construct validity of the perceived belonging in sport scale and suggest that the scale is best represented by a unidimensional model. Specifically, the simple structure of the factor model and model fit indices demonstrated an acceptable fit between the observed and reproduced interitem covariance matrices. These findings both provided evidence of construct validity. Although significant, the factor loadings of the negatively worded items were small and the latent factor accounted for only a small amount of variance of these items. This finding suggests that participants may interpret positively and negatively worded items differently and may lead researchers to suggest a two factor model rather than a unidimensional model. However, as well as examining the statistical analyses it is important to consider the conceptual basis of any model. The results of the statistical analysis can be interpreted in at least two ways. First, that there are two distinct perceptions of belonging a negative perception and a positive one. Or alternatively, that perceived belonging is a unidimensional construct but
individuals respond differently to negatively and positively worded items. This is a measurement limitation rather than a conceptual distinction. No conceptual reason could be found to propose a model with two separate factors. Therefore, it was decided to retain perceived belonging as a single construct and employ one score for perceived belonging in subsequent analyses.

**Preliminary predictive validity**

Evidence of validity can also be gained from contrasted groups procedures. That is, demonstrating differences in perceived belonging between groups which are predicted to differ in this construct provides support for the validity of the measure. Predictions were made about group differences in participants' sense of belonging in sport. Specifically, it was hypothesised that adolescents who were extensively involved in sport would report a stronger sense of belonging compared with adolescents who had limited involvement or had never been involved in organised sport. To test this hypothesis an one-way ANOVA was conducted with perceived belonging as the dependent variable and sport involvement as the grouping factor. Perceived belonging calculated as the average of the 10 items in the PBS. To define the grouping factor participants were divided into three categories based on the number of sports in which they reported participation. Participants who reported never having been involved in organised sport were placed in one group. The remaining participants were placed in either a high participation group (reported involvement in 3 or more sports) or a low participation group (reported involvement in only 1 or 2 sports). Therefore, the between subjects factor had three levels: never participated, participation in 1 or 2 sports, participation in 3 or more sports.

Results of the ANOVA revealed a significant difference in perceived belonging between at least two of the groups \((F (2,152) = 15.17, p < .001)\). Follow up comparison of means with Bonferroni adjustment of significance levels to correct for multiple comparisons revealed significant differences in perceived belonging between all three groups \((p < .05)\) (see Table 15). Specifically, perceived belonging was highest for participants who reported the highest levels of involvement \((M = 3.76)\), followed by those who reported lower levels of sport involvement \((M = 3.50)\), and perceived belonging was lowest for those individuals who reported never participating in organised sport \((M = 2.92)\).

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Group comparison</th>
<th>Mean difference</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>29</td>
<td>2.92</td>
<td>.67</td>
<td>1-2</td>
<td>-.58*</td>
<td>.14</td>
</tr>
<tr>
<td>1 or 2 sports</td>
<td>207</td>
<td>3.50</td>
<td>.70</td>
<td>1-3</td>
<td>-.84*</td>
<td>.15</td>
</tr>
<tr>
<td>3+ sports</td>
<td>88</td>
<td>3.76</td>
<td>.68</td>
<td>2-3</td>
<td>-.26*</td>
<td>.09</td>
</tr>
</tbody>
</table>

*Note. never - no sport participation, 1 or 2 sports - participation in 1 or 2 sports, 3+ sports - participation in 3 or more sports. * \(p < .05\)
Summary

The results of the analyses in this phase of the investigation provided evidence supporting the validity and reliability of the measures developed to assess the central constructs in the social motivation model. Specifically, parts one and two demonstrated support for the face, content, convergent, discriminant, and structural validity of the social motivational orientations scale for sport and education. This measure assessed three social motivation orientations, an affiliation orientation and two social validation orientations (i.e., social recognition and social status). Further, consistent with hypotheses the factor structure of the measure was consistent across the domains of sport and education, therefore providing evidence supporting of the cross domain stability and generalisability of social motivation orientations. In part three, results of the analyses provided evidence in support of the validity of the sport version of the perceived belonging scale as well as preliminary evidence of its predictive validity. In the next chapter the results of the path analyses to test the theoretical predictions of the social motivation model are presented. Specifically, the fit of the observed data to a priori specified models reflecting the propositions and hypotheses of the social motivation model were evaluated. This analysis was to determine the predictive validity of the proposed social motivation model. That is, the extent to which the specified model not only fit the data but also explain variance in adolescents' interest/enjoyment in sport and education.
CHAPTER 6: RESULTS - PHASE TWO: STRUCTURAL MODEL TESTING

One of the aims of the present investigation was to examine the potential for a social motivation approach as an alternative or additional explanation of motivation in youth sport. Therefore, an examination of the predictive validity of the proposed social model of motivation was conducted using structural equation modelling techniques. Descriptive statistics were calculated for all variables included in the analyses. This provided an examination of the extent to which the participants endorsed each of the constructs employed in the analyses, the reliability of the scales employed to assess these constructs, and the support for the hypothesised relationships among constructs. In these analyses the hypothesised relationships among motivational constructs were examined and the ability of the models to predict adolescents' interest/enjoyment in two domains, sport and school, was determined. Further, as with the measurement phase of this investigation, the two-step, calibration-validation, approach to model testing was adopted. For this set of analyses the full sample of data was randomly split into two sub samples containing approximately 50% of the participants in each (sub sample X and sub sample Y). Sub sample X was employed as the calibration sample and sub sample Y was employed as the validation sample.

Social motivation in youth sport

*Purpose: To examine the predictive validity of the social motivation model in youth sport. Specifically, to examine the relationships among social motivational orientations, perceived belonging, and interest/enjoyment in sport.*

Descriptive statistics

Descriptive statistics including means, standard deviations, skewness, kurtosis, bivariate correlations, and alpha coefficients were calculated for all variables for both calibration and validation samples (see Table 16). Participants reported moderate levels of interest in their sport involvement (sub sample X $M = 3.62$, sub sample Y $M = 3.69$). With regard to social motivational constructs participants perceived themselves to be moderately high in belonging (sub sample X $M = 3.38$, sub sample Y $M = 3.53$), they reported moderately high orientations toward affiliation (sub sample X, $M = 3.70$, sub sample Y $M = 3.81$) and recognition (sub sample X $M = 3.30$, sub sample Y $M = 3.48$) and a weaker orientation toward social status (sub sample X $M = 2.75$, sub sample Y $M = 2.83$). Overall, participants were interested in and enjoyed their sport involvement and they felt a sense of belonging in sport.
good at sports. These adolescents were oriented toward affiliation and social recognition and less toward social status.

The reliability of each scale was assessed through calculation of coefficient alpha (Cronbach, 1959). For all variables the coefficient alpha was greater than .70 (sub sample X range = .81-.89, sub sample Y range = .77-.87), therefore indicating acceptable internal consistency of the measures. All variables exhibited some skewness and kurtosis, however, the absolute skewness values did not exceed 1.0. Of the kurtosis values, only affiliation and interest exceeded an absolute value of 1.0 and this did not exceed 3.0. Therefore, univariate distributions were considered non problematic for SEM analyses. With regard to multivariate distributions some multivariate kurtosis was evident. For the calibration sample (sub sample X) Mardia’s coefficient was 38.12 and the Normalised estimate was 14.12. For the validation sample (sub sample Y) Mardia’s coefficient was 41.53 and the Normalised estimate was 16.29. Therefore, maximum likelihood estimation with robust statistics was employed in subsequent SEM analyses.

Table 16. Descriptive statistics for independent and dependent variables (sport).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Affiliation</th>
<th>Social Status</th>
<th>Social Recognition</th>
<th>Perceived Belonging</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliation</td>
<td>-</td>
<td>.48</td>
<td>.29</td>
<td>.47</td>
<td>.54</td>
</tr>
<tr>
<td>Social Status</td>
<td>.46</td>
<td>-</td>
<td>.44</td>
<td>.32</td>
<td>.38</td>
</tr>
<tr>
<td>Social Recognition</td>
<td>.47</td>
<td>.39</td>
<td>-</td>
<td>.40</td>
<td>.36</td>
</tr>
<tr>
<td>Perceived Belonging</td>
<td>.44</td>
<td>.35</td>
<td>.39</td>
<td>-</td>
<td>.57</td>
</tr>
<tr>
<td>Interest</td>
<td>.46</td>
<td>.33</td>
<td>.45</td>
<td>.54</td>
<td>-</td>
</tr>
</tbody>
</table>

**Calibration sub sample**
- Mean 3.70 2.75 3.30 3.38 3.62
- Standard Deviation .60 .87 .83 .80 .91
- Skewness -.89 .19 -.16 -.18 -.71
- Kurtosis 2.68 -.02 -.20 -.05 .34
- Coefficient alpha .84 .81 .84 .86 .89

**Validation sub sample**
- Mean 3.81 2.83 3.48 3.53 3.69
- Standard Deviation .62 .86 .82 .65 .79
- Skewness -1.00 .15 -.26 -.15 -.77
- Kurtosis 1.63 -.41 -.16 -.06 1.35
- Coefficient alpha .83 .77 .79 .81 .87

Note. Bivariate correlations for calibration sub sample (n = 164) appear below the diagonal and for the validation sub sample (n =184) above the diagonal. All correlations were significant (p < .05).

Mean scores from sub sample X were not significantly different from those in sub sample Y (Wilks Lambda = .98, F (5, 327) = 1.35, p > .05).
Correlations

Pearson's product-moment correlations were used as an initial assessment of relationships among independent and dependent variables. Examination of these correlations revealed patterns of moderate relationships amongst most variables. Perceived belonging was moderately and positively related to sport interest (sub sample X $r = .54$, sub sample Y $r = .57$). Affiliation and recognition were also moderately and positively related to sport interest (affiliation: sub sample X $r = .46$, sub sample Y $r = .54$; recognition: sub sample X $r = .45$, sub sample Y $r = .36$). The relationship between social status and interest was also positive but slightly weaker (sub sample X $r = .33$, sub sample Y $r = .38$). The relationships between social motivational orientations and perceived belonging were moderate and positive (affiliation: sub sample X $r = .44$, sub sample Y $r = .47$; recognition: sub sample X $r = .39$, sub sample Y $r = .40$; status: sub sample X $r = .35$, sub sample Y $r = .32$). The pattern of relationships between social motivation and motivational outcomes, specifically sport interest, were in the predicted direction, that is perceived belonging and social motivational orientations correlated positively with positive outcomes.

Gender differences

Before examination of the relationships among social motivational constructs and their predictive validity, the data were examined for evidence of gender differences in the independent and dependent variables. A multivariate analysis of variance (MANOVA) was conducted. Gender was the between subjects factor and the three social orientations, perceived belonging, and sport interest were the dependent variables. If significant gender differences in a number of the variables emerged separate analyses for males and females would be warranted. The results of this analysis indicated a significant overall multivariate effect for gender (Wilk's Lambda = .91, $F (5, 329) = 6.62, p < .05$). Between subjects comparisons, however, revealed only one significant gender effect. Males were significantly higher than females on social status orientation ($F (1, 333) = 13.98, p < .05$) and gender accounted for 4% of the variance in this variable.

In addition to the test for gender differences, the pattern of correlations among social motivational constructs and interest was also examined for males and females separately. If the pattern of correlations was different for males and females then separate analyses for males and females may be warranted. The correlations are presented in Table 17. Examination of these bivariate correlations revealed moderate positive correlations between social motivational orientations, perceptions of belonging and interest/enjoyment in sport for males ($r = .53 .- .68$). The pattern was similar but the correlations were slightly weaker for females ($r = .29 . - .49$). This was particularly noticeable for the relationship between social status orientation and sport interest (males $r = .53$, females $r = .29$). In summary, although there was a significant gender
difference in the social status variable, the amount of variance explained by gender was only small. Further, although the magnitude of the correlations with interest/enjoyment were weaker for females, the pattern of relationships (i.e., direction of relationship) was similar across genders. Therefore, subsequent analyses were collapsed across gender.

Table 17. Descriptive statistics for independent and dependent variables by gender (sport).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Affiliation</th>
<th>Social Status</th>
<th>Social Recognition</th>
<th>Perceived Belonging</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliation</td>
<td></td>
<td>.45</td>
<td>.27</td>
<td>.44</td>
<td>.43</td>
</tr>
<tr>
<td>Social Status</td>
<td>.64</td>
<td>-</td>
<td>.39</td>
<td>.29</td>
<td>.29</td>
</tr>
<tr>
<td>Social Recognition</td>
<td>.51</td>
<td>.65</td>
<td>-</td>
<td>.35</td>
<td>.33</td>
</tr>
<tr>
<td>Perceived Belong</td>
<td>.47</td>
<td>.49</td>
<td>.46</td>
<td>-</td>
<td>.49</td>
</tr>
<tr>
<td>Interest</td>
<td>.61</td>
<td>.53</td>
<td>.53</td>
<td>.68</td>
<td>-</td>
</tr>
</tbody>
</table>

**Males**

Mean 3.71 3.06 3.51 3.46 3.71
Standard Deviation .67 .86 .84 .79 .98

**Females**

Mean 3.77 2.71 3.34 3.51 3.56
Standard Deviation .57 .82 .82 .71 .77

Note. Bivariate correlations for males (n = 122) appear below the diagonal and for females (n = 224) above the diagonal. All correlations significant (p < .05)

To examine the relationships among social motivational constructs and interest further and determine the predictive validity of social motivational constructs in youth sport motivation structural equation modelling techniques were employed. The relationships among the social motivational constructs (i.e., three social motivational orientations, and perceived belonging), and interest in sport were examined. This provided a test of the social motivation model proposed in Chapter three. As with the measurement model testing a two-step, calibration-validation, approach was adopted. That is, first the fit of the data from a calibration sample to a priori specified models was evaluated. Then the model was cross-validated on a second, validation, sample and fit to observed data evaluated. The model fit indices and residuals are summarised in Table 18.

**Calibration path analyses**

**Full mediation model**

A model reflecting the hypothesised relationships among social motivation constructs (i.e., social motivational orientations, perceived belonging) and sport interest was specified a priori. This model was a full mediational model (see Figure 13) which reflected the hypothesis that the influence of social motivational orientations on sport interest is mediated by perceived
belonging. That is, it was hypothesised that social motivational orientations do not directly effect sport interest but do so indirectly through their relationship with perceived belonging.

The full mediation model (M1) provided an adequate fit to the observed data, Scaled $\chi^2$ ($df = 17, N = 164) = 33.66, p = .01$, BBNFI = .93, RCFI = .96, RMSEA = .10. The chi square-to-degrees of freedom ratio was 1.98. Examination of the residuals, however, revealed that this model may not be the best representation of the pattern of relationships among social motivational constructs and interest in sport. Specifically, the residual fit index was slightly above the recommended .08 value (RMSEA = .10) and the residuals were slightly above the recommended .05 value (average absolute standardised residual = .07, the average off-diagonal absolute standardised residual = .09). Finally, the largest individual residual was .26, again slightly above the recommended value of .20. This combination of fit indices, however, was considered reflective of good fit because all indices either met or approached the criteria for good fit.

Figure 13. Proposed social motivation full mediation model.

Next the parameter estimates for the measurement and structural components of the model were examined. The standard solution for these estimates is provided in Figure 14. For the measurement part of the model, the loadings of the four items on the sport interest latent factor were all significant as were the parameters representing measurement error. The loadings ranged from .65 to .96 and the latent factor accounted for between 43% and 93% of the variance in the observed items. For the structural part of the model the direct and indirect relationships among social motivational variables and interest were also examined. The standardised coefficients and associated $t$ values are presented in Table 19. Affiliation orientation and social recognition orientation exhibited significant and positive direct relationships with perceived belonging (affiliation: standardised coefficient = .28; recognition: standardised coefficient = .20). The expected direct relationship between social status orientation and perceived belonging, however, was not supported. As hypothesised greater perceived belonging was associated with greater interest in sport (standardised coefficient =
Table 18. Fit indices and residuals for a priori specified social motivation models.

<table>
<thead>
<tr>
<th>Model</th>
<th>Scaled $\chi^2$</th>
<th>$p$</th>
<th>$df$</th>
<th>$\chi^2/df$</th>
<th>$\Delta\chi^2$</th>
<th>BBNNFI$^b$</th>
<th>RCFI$^c$</th>
<th>RMSEA$^d$</th>
<th>AASR$^e$</th>
<th>AODSR$^f$</th>
<th>Largest$^g$</th>
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<tr>
<td>Calibration (n=164)</td>
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</tr>
<tr>
<td>1</td>
<td>33.66</td>
<td>.009</td>
<td>17</td>
<td>1.98</td>
<td>-</td>
<td>.93</td>
<td>.96</td>
<td>.10</td>
<td>.07</td>
<td>.09</td>
<td>.26</td>
</tr>
<tr>
<td>2</td>
<td>26.47</td>
<td>.048</td>
<td>16</td>
<td>1.65</td>
<td>7.19**</td>
<td>.95</td>
<td>.97</td>
<td>.08</td>
<td>.04</td>
<td>.05</td>
<td>.20</td>
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<tr>
<td>Validation (n=176)</td>
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<tr>
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<td>&lt;.001</td>
<td>24</td>
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<td>1.00</td>
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<td>.09</td>
<td>.09</td>
<td>.29</td>
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<tr>
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<td>24</td>
<td>2.18</td>
<td>-</td>
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<td>1.00</td>
<td>.11</td>
<td>.06</td>
<td>.06</td>
<td>-.16</td>
</tr>
</tbody>
</table>

Note. Calibration sub sample (n = 164) Mardia’s coefficient = 31.54, Normalised estimate = 15.62. Validation sub sample (n = 176) Mardia’s coefficient = 29.33, Normalised estimate = 13.83.

$^a$Model 1 = full mediational model, Model 2 = partial mediational model with direct effect of affiliation on interest added.

$^b$Bentler-Bonett non-normed fit index. $^c$Robust Comparative fit index. $^d$Residual mean square error of approximation index.

$^e$Average absolute standardised residual. $^f$Average off-diagonal absolute standardised residual. $^g$Largest individual residual.

** $p < .01$. 
Figure 14. Standardised solution of social motivation full mediational model for sport (calibration sub sample). Model fit indices, Scaled $\chi^2 (df = 17, N = 164) = 33.66, p = .01$, BBNNFI = .93, RCFI = .96, RMSEA = .10. Note. $\rightarrow$ significant path ($p < .05$). $\Rightarrow$ non significant path ($p > .05$).
The correlations among the social motivational orientations were significant and ranged from .39 to .47. Examination of the indirect effects provided partial support for the hypothesised mediation role of perceived belonging between orientations and outcomes in sport. Specifically, the affiliation and social recognition variables but not social status showed significant indirect effects on sport interest through perceived belonging (affiliation: standardised coefficient = .16, t = 3.09, p < .05; recognition: standardised coefficient = .11, t = 2.33, p < .05). These findings suggest that for both affiliation and recognition orientations and greater perceived belonging are associated with greater interest and enjoyment in sport. For social status orientation, however, perceived belonging does not appear to influence interest in sport. Finally, the full mediational model explained 25% of the variance of perceived belonging and 30% of the variance of sport interest.

Table 19. Standardised direct and indirect effects for social motivation models.

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Calibration Model 1</th>
<th>Validation Model 1</th>
<th>Calibration Model 2</th>
<th>Validation Model 2</th>
</tr>
</thead>
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<tr>
<td></td>
<td>Effect t-value</td>
<td>Effect t-value</td>
<td>Effect t-value</td>
<td>Effect t-value</td>
</tr>
<tr>
<td>Direct</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest → item 1</td>
<td>.87</td>
<td>.88</td>
<td>.87</td>
<td>.87</td>
</tr>
<tr>
<td>Interest → item 2</td>
<td>.96 16.29*</td>
<td>.96 16.30*</td>
<td>.91 16.30*</td>
<td>.91 16.30*</td>
</tr>
<tr>
<td>Interest → item 3</td>
<td>.78 9.48*</td>
<td>.78 9.62*</td>
<td>.76 9.62*</td>
<td>.77 9.62*</td>
</tr>
<tr>
<td>Interest → item 4</td>
<td>.65 6.80*</td>
<td>.66 6.84*</td>
<td>.65 6.84*</td>
<td>.66 6.84*</td>
</tr>
<tr>
<td>Affiliation → Belonging</td>
<td>.28 3.75*</td>
<td>.28 3.75*</td>
<td>.34 3.75*</td>
<td>.34 3.75*</td>
</tr>
<tr>
<td>Status → Belonging</td>
<td>.15 1.40</td>
<td>.15 1.40</td>
<td>.17 1.40</td>
<td>.17 1.40</td>
</tr>
<tr>
<td>Recognition → Belonging</td>
<td>.20 2.17*</td>
<td>.20 2.17*</td>
<td>.24 2.17*</td>
<td>.24 2.17*</td>
</tr>
<tr>
<td>Belonging → Interest</td>
<td>.55 6.92*</td>
<td>.45 5.41*</td>
<td>.53 5.41*</td>
<td>.29 5.41*</td>
</tr>
<tr>
<td>Affiliation → Interest</td>
<td>-</td>
<td>-.23 2.81*</td>
<td>-</td>
<td>-.39 2.81*</td>
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<tr>
<td>Indirect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affiliation → Interest</td>
<td>.16 3.09*</td>
<td>.13 2.92*</td>
<td>.18 2.92*</td>
<td>.10 2.92*</td>
</tr>
<tr>
<td>Status → Interest</td>
<td>.08 1.76</td>
<td>.07 1.73</td>
<td>.09 1.73</td>
<td>.06 1.73</td>
</tr>
<tr>
<td>Recognition → Interest</td>
<td>.11 2.33*</td>
<td>.09 2.26*</td>
<td>.12 2.26*</td>
<td>.09 2.26*</td>
</tr>
</tbody>
</table>

Notes. Calibration sub sample (n = 164). Validation sub sample (n = 176). Model 1 = full mediational model, Model 2 = partial mediational model with direct effect of affiliation on interest added.
*p < .05.

Partial mediation model

Given the slightly larger than desirable residuals and that this was the first test of the social motivation model the fit of an alternate model was also examined. This second model reflected a proposed elaboration of the relationship among social motivation orientations, perceived belonging, and interest in sport (see Figure 15). In this partial mediation model it was hypothesised that affiliation orientation had a direct effect on interest as well as the indirect effect via perceived belonging specified in the full mediational model. The partial
mediation model reflected the hypothesis that affiliation orientation had a direct effect on interest as well as the indirect effect via perceived belonging. The addition of this path to the model was justified because it reflected the proposition that for affiliation orientation motivational outcomes such as interest are less contingent upon perceived belonging compared with the other orientations.

Figure 15. Proposed social motivation partial mediation model.

The fit of this model to the observed data also demonstrated acceptable fit, Scaled $\chi^2 (df = 16, N = 164) = 26.47, p = .05$, BBNNFI = .95, RCFI = .97, RMSEA = .08. The chi square-to-degrees of freedom ratio was 1.65 and there was an improvement in the residuals. Specifically, the residual fit index meet the .08 criteria (RMSEA = .08), the average absolute standardised residual (.04) and average off-diagonal absolute standardised residual (.05) were equal to or less than .05 and the largest individual residual was .20. Finally, the change in chi square supported a significant improvement in fit, $\Delta \chi^2 = 7.19, \Delta df = 1, p < .01$. This combination of fit indices was considered indicative of a good fit to the data because all indices met the criteria for good fit.

The parameter estimates for the direct effects of the social motivational orientations on perceived belonging were the same as they were in the full mediational model. With the addition of the direct effect of affiliation on interest, however, there was a change in the direct effect of perceived belonging on interest as well as changes in the indirect effects of social orientations on interest (see Table 19). The standard solution for this model is provided in Figure 16. The direct effect of affiliation on interest was positive and significant (standardised coefficient = .23). The direct effect of perceived belonging on interest remained positive and significant, however, it was reduced in magnitude (standardised coefficient = .45). The pattern of significant and non significant indirect effects remained the same as the full mediational model, however, the magnitude of these effects was reduced slightly. Specifically, affiliation and social recognition both had significant indirect effects on interest via perceived belonging (affiliation: standardised coefficient = .13, $t = 2.92, p < .05$; recognition: standardised coefficient = .12, $t = 2.87, p < .05$).
Figure 16. Standardised solution of social motivation partial mediation model (calibration sub sample).
Model fit indices, Scaled $\chi^2 (df = 16, N = 164) = 26.47, p = .05$, BBNNFI = .95, RCFI = .97, RMSEA = .08, $\Delta \chi^2 = 7.19, \Delta df = 1, p < .01$.
Note. $\rightarrow$ significant path ($p < .05$). $\rightarrow$ non significant path ($p > .05$).
coefficient = .09, t = 2.26, p < .05). The indirect effect of social status on interest via perceived belonging was not significant. These findings suggested that affiliation has both direct and indirect (through perceived belonging) influence on sport outcomes. The model accounted for 25% of the variance of perceived belonging and 34% of variance of sport interest.

Validation path analyses

To assess the stability of the parameter estimates and validity of the calibration models cross-validation structural equation analyses were employed. The fit of the two mediation models from the calibration analyses to the data from sub sample Y were evaluated. The unstandardised path coefficients for the paths, factor loadings, variances, and covariances from the calibration models were used as the parameter estimates for the validation models. In cross-validation, rather than determining the pattern of relationships among variables (i.e., which path coefficients are significant and which are not significant) the purpose of the analysis is to determine the extent to which the model established in one sample of observed data fit equally well to another sample. Therefore, the emphasis is on determining the extent of the fit or misfit to the data. The fit of these models is summarised in Table 18.

The fit of the full mediational model approached acceptable fit, however, several of the indices of fit did not meet the criteria for good fit to the data, Scaled \( \chi^2 \) \((df = 24, N = 176) = 63.53, p < .001, BBNNFI = .88, RCFI = 1.00, RMSEA = .13. The chi square to degrees of freedom ratio was 2.64 and the residuals approached acceptable levels (average absolute standardised residual = .09, average off-diagonal absolute standardised residual = .09, largest individual residual = .29). The model accounted for 36% of the variance of perceived belonging and 28% of the variance of sport interest.

The fit of the partial mediation model demonstrated acceptable fit Scaled \( \chi^2 \) \((df = 24, N = 176) = 52.43, p = .001, BBNNFI = .91, RCFI = 1.00, RMSEA = .11. The chi square to degrees of freedom ratio was 2.18 and the residuals were small (average absolute standardised residual = .06, average off-diagonal absolute standardised residual = .06, and the largest individual residual = -.16). The model accounted for 36% of the variance of perceived belonging and 35% of the variance of sport interest.

Summary of calibration-validation analyses

In summary, the findings of the cross-validation analyses provided support for the social motivation model proposed in Chapter 3. Particularly for the partial mediation model in which affiliation has both direct and indirect (via perceived belonging) effects on adolescents' sport interest/enjoyment. The evidence from the cross-validation analyses supports the stability of the form of the social motivation model as well as the magnitude and direction of the relationships among the social motivational constructs and sport outcomes such as interest.
Adolescents who were affiliation oriented and those who perceived a greater sense of sport belonging reported greater interest in their activities during their sport involvement. Further, perceived belonging was a significant mediator of the relationship between affiliation and social recognition orientations and sport interest/enjoyment. The hypothesised role of perceived belonging as a mediator of the relationship between social status orientation and sport interest was not supported.

**Perceived belonging as a mediator or a moderator?**

In light of the findings from the calibration-validation analyses further examination of the mediator/moderator role of perceived belonging in the relationships between social motivational orientations and interest/enjoyment was made. This involved testing an additional alternative path model using structural equation modelling techniques and using multiple regression analysis to examine the predictors of sport interest for groups relatively high and low in perceived belonging.

**Test of additional direct effects on interest**

An alternate model was proposed and the fit to the data evaluated in an attempt to clarify the role of perceived belonging as a mediator or moderator of the relationship between social motivational orientations and sport interest/enjoyment. In this model two paths were added to the partial mediation model. These paths provided a test of the direct relationship between social status and interest and between social recognition and interest. In both calibration and validation sub samples the direct effect of social status on sport interest/enjoyment was not significant. For recognition, however, the direct path with interest was significant in the calibration sub sample (standardised coefficient = .20, $t = 2.20$, $p < .05$) but not in the validation sub sample. The model demonstrated adequate fit to the calibration sub sample data ($\chi^2 (df = 14, N = 164) = 20.80, p = .10$, BBNNFI = .96, RCFI = .98, RMSEA = .07), however, the change in chi square was not significant ($\Delta \chi^2 = 5.67, \Delta df = 2, p > .05$). Therefore, only limited support was provided for direct effects of the social validation orientations on sport interest/enjoyment. This evidence supports the original mediation hypothesis, however, suggests further examination of the role of perceived belonging, particularly with regard to social recognition orientation.

**Predictors of interest for high and low belonging individuals**

A series of multiple regression analyses were conducted to determine if there was empirical evidence to support viewing perceived belonging as a moderator of the relationships between social motivational orientations and sport interest/enjoyment. In this analysis the sample was split such that two groups were formed, those adolescents relatively high in perceived belonging and those relatively low in perceptions of belonging. The high belonging
group consisted of those adolescents reporting perceived belonging that was one half standard deviation or greater above the mean. For this group the mean score for perceived belonging was 4.30 and the standard deviation was .34. In contrast, the low belonging group was comprised of adolescents who reported perceptions of belonging one half standard deviation or greater below the mean. For this group the mean was 2.71 and the standard deviation was .43.

Multiple regression analyses were performed separately for the two groups to determine which, if any, of the social motivational orientations were significant predictors of interest/enjoyment in sport. If the predictors of sport interest/enjoyment were the same for both groups then there would be no evidence to support a moderating effect of perceived belonging on the relationships. If, however, the significant predictors were different for the two groups then evidence of moderation would be provided. Results of these analyses are presented in Table 20. For the relatively high belonging group, affiliation ($\beta = .39, p < .05$) and recognition orientations ($\beta = .32, p < .05$) were significant predictors of sport interest/enjoyment. Overall, 30% of the variance in sport interest/enjoyment was explained by affiliation and social recognition orientations. For the relatively low belonging group, affiliation ($\beta = .31, p < .05$) and social status orientations ($\beta = .28, p < .05$) were significant predictors of sport interest/enjoyment. Overall, 26% of the variance in sport interest/enjoyment was explained by these two orientations.

Table 20. Standardised regression coefficients for social motivational orientations predicting sport interest by level of perceived belonging.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>High Belonging</th>
<th>Low Belonging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliation</td>
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<td>.31**</td>
</tr>
<tr>
<td>Social status</td>
<td>-.03</td>
<td>.28**</td>
</tr>
<tr>
<td>Social recognition</td>
<td>.32**</td>
<td>.13</td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>.30</td>
<td>.26</td>
</tr>
</tbody>
</table>

The relationship between affiliation and interest/enjoyment in sport was similar for those individuals reporting relatively high and those reporting relatively low perceived sport belonging. This suggests that individuals high in affiliation orientation are interested in and enjoy sport regardless of their sense of belonging. Perceived belonging does not appear to moderate this relationship. In contrast, perceived belonging did appear to moderate the relationships between the two social validation orientations and sport interest/enjoyment. Specifically, social recognition was only a significant predictor of interest/enjoyment for those adolescents who reported a relatively strong sense of belonging. That is, individuals high in social recognition orientation find sport interesting and enjoyable when they feel they belong but not when they have a relatively low sense of belonging. The opposite relationship was
found for social status orientation and sport interest/enjoyment. That is, social status orientation was a significant predictor of sport interest/enjoyment for those who reported lower perceptions of belonging but not for those reporting relatively high perceived belonging. In summary, evidence was provided to support the view that perceived belonging may be best conceptualised as a moderator of the relationships between social validation orientations and sport interest/enjoyment but not for the relationship between affiliation orientation and interest.

**Social motivation in education**

*Purpose:* To examine the predictive validity of the social motivation model in the education domain. Specifically, to examine the relationships among social motivational orientations, perceived belonging, and interest/enjoyment in school.

**Descriptive statistics**

Descriptive statistics including means, standard deviations, skewness, kurtosis, bivariate correlations, and alpha coefficients were calculated for all variables for both calibration and validation samples (see Table 21). Participants reported moderate levels of interest in school activities (sub sample X $M = 2.90$, sub sample Y $M = 2.94$). With regard to social motivational constructs participants perceived themselves to be moderately high in belonging (sub sample X $M = 3.41$, sub sample Y $M = 3.48$), they reported a high orientation toward affiliation (sub sample X, $M = 4.01$, sub sample Y $M = 4.07$), a moderately high orientation toward recognition (sub sample X $M = 3.23$, sub sample Y $M = 3.36$), and a weaker orientation toward social status (sub sample X $M = 2.87$, sub sample Y $M = 2.88$). Overall, participants were moderately interested in and enjoyed their school involvement and they felt a strong sense of belonging in their school. These adolescents were oriented toward affiliation, social recognition and less toward social status.

The reliability of each scale was assessed through calculation of coefficient alpha (Cronbach, 1959). For all variables the coefficient alpha was greater than .70, except social recognition orientation in sub sample Y which was .69, (sub sample X range = .74 -.87, sub sample Y range = .69 -.87), therefore indicating acceptable internal consistency of the measures. All variables exhibited some skewness and kurtosis. Only one absolute skewness value, however, exceeded 1.0 (i.e., affiliation orientation). The kurtosis values suggested some peakedness in affiliation orientation for both samples, however as these values only slightly exceeded an absolute value of 3.0 they were considered acceptable. Therefore, univariate distributions were considered non problematic for SEM analyses. With regard to multivariate distributions some multivariate kurtosis was evident. For the calibration sample (sub sample X) Mardia's coefficient was 26.72 and the Normalised estimate was 13.02. For the validation
sample (sub sample Y) Mardia's coefficient was 9.88 and the Normalised estimate was 5.00. Therefore, maximum likelihood estimation with robust statistics was employed in subsequent SEM analyses.

Table 21. Descriptive statistics for independent and dependent variables (school).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Affiliation</th>
<th>Social Status</th>
<th>Social Recognition</th>
<th>Perceived Belonging</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
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<td>.27</td>
<td>.42</td>
<td>.13&lt;sup&gt;ns&lt;/sup&gt;</td>
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<tr>
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<td>.25</td>
<td>.16</td>
<td>.03&lt;sup&gt;ns&lt;/sup&gt;</td>
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<td>-</td>
<td>.34</td>
<td>.28</td>
</tr>
<tr>
<td>Perceived Belonging</td>
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<td>.18</td>
<td>.40</td>
<td>-</td>
<td>.47</td>
</tr>
<tr>
<td>Interest</td>
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<td>.04&lt;sup&gt;ns&lt;/sup&gt;</td>
<td>.37</td>
<td>.42</td>
<td>-</td>
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</table>

**Calibration sub sample**

<table>
<thead>
<tr>
<th>Mean</th>
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<th>3.23</th>
<th>3.41</th>
<th>2.90</th>
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</thead>
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<tr>
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<td>.67</td>
<td>.70</td>
<td>.75</td>
</tr>
<tr>
<td>Skewness</td>
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<td>.21</td>
<td>-.28</td>
<td>-.04</td>
</tr>
<tr>
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<td>-.03</td>
<td>.19</td>
<td>.81</td>
<td>.15</td>
</tr>
<tr>
<td>Coefficient alpha</td>
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<td>.83</td>
<td>.74</td>
<td>.80</td>
<td>.79</td>
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**Validation sub sample**

<table>
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<tr>
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<th>4.07</th>
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<th>3.36</th>
<th>3.48</th>
<th>2.94</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Deviation</td>
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<td>.82</td>
<td>.64</td>
<td>.66</td>
<td>.86</td>
</tr>
<tr>
<td>Skewness</td>
<td>-.98</td>
<td>.30</td>
<td>-.08</td>
<td>-.57</td>
<td>-.35</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>3.67</td>
<td>.21</td>
<td>.11</td>
<td>.38</td>
<td>-.10</td>
</tr>
<tr>
<td>Coefficient alpha</td>
<td>.83</td>
<td>.74</td>
<td>.69</td>
<td>.79</td>
<td>.87</td>
</tr>
</tbody>
</table>

**Notes.** Bivariate correlations for calibration sub sample (n = 165) appear below the diagonal and for the validation sub sample (n = 184) above the diagonal. <sup>ns</sup> non significant correlation (p > .05).

No significant differences in mean scores between sub samples (Wilks Lambda = .99, F (5, 310) = .69, p > .05).

Factor structure of perceived belonging scale was supported by a confirmatory factor analysis on the data (Scaled $\chi^2$ (df = 31, N = 335) = 71.66, p < .01, BBNNFI = .89, RCFI = .93, RMSEA = .08).

**Correlations**

Pearson's product-moment correlations were used as an initial assessment of relationships among independent and dependent variables. Examination of these correlations revealed patterns of moderate relationships amongst most variables. Perceived belonging was moderately and positively related to school interest (sub sample X $r = .42$, sub sample Y $r = .47$). Recognition was also moderately and positively related to school interest (sub sample X $r = .37$, sub sample Y $r = .28$). The relationship between affiliation orientation and school interest was weaker and not significant (sub sample X $r = .23$, sub sample Y $r = .13$). The relationship between social status and interest was also not significant (sub sample X $r = .04$, sub sample Y $r = .03$). The relationships between social motivational orientations and perceived belonging were moderate and positive for affiliation (sub sample X $r = .45$, sub
sample Y $r = .42$) and for recognition (sub sample X $r = .40$, sub sample Y $r = .34$). The relationship between social status and perceived belonging was weaker (sub sample X $r = .18$, sub sample Y $r = .16$). The pattern of relationships between social motivation and motivational outcomes, specifically school interest, were in the predicted direction, that is, perceived belonging and social recognition orientation correlated positively with positive outcomes. The relationships between affiliation orientation, social status orientation, and interest were weaker than expected as was the relationship between social status orientation and perceived belonging.

**Gender differences**

As with the sport data, before examination of the relationships among social motivational constructs and their predictive validity, the education data were examined for evidence of gender differences in the independent and dependent variables. A multivariate analysis of variance (MANOVA) was conducted with gender as the between subjects factor and the three social orientations, perceived belonging, and sport interest as the dependent variables. If significant gender differences in a number of the variables emerged separate analyses for males and females would be warranted. The results of this analysis indicated a significant overall multivariate effect for gender (Wilk's Lambda = .91, $F (5, 310) = 6.37, p < .05$). Between subjects comparisons revealed two significant gender effects, social status ($F (1, 314) = 11.96, p < .05$), in which gender accounted for 4% of the variance and affiliation ($F (1, 314) = 8.99, p < .05$), in which gender accounted for 3% of the variance. Similar to the sport data males were higher than females on social status orientation, however unlike the sport data, females were higher than males on affiliation orientation.

In addition to the test for gender differences, the pattern of correlations among social motivational constructs and interest was also examined for males and females separately. If the pattern of correlations was different for males and females then separate analyses for males and females may be warranted. These correlations are presented in Table 22. Examination of these bivariate correlations revealed weak and non significant correlations for both males and females between two of the social motivational orientations (affiliation and social status) and interest/enjoyment in school ($r = -.02 - .18$). The correlation between social recognition orientation and school interest/enjoyment was positive and moderate for males ($r = .42$) and positive but slightly weaker for females ($r = .23$). Correlations between perceptions of belonging and interest/enjoyment in school were positive and moderate for both males ($r = .42$) and females ($r = .47$). In summary, although there were significant gender differences in the social status and affiliation variable, the amount of variance explained by gender was only small. Further, the pattern of relationships (i.e., direction of relationships) was similar across genders. Therefore, subsequent analyses were collapsed across gender.
Table 22. Descriptive statistics for independent and dependent variables by gender (school).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Affiliation</th>
<th>Social Status</th>
<th>Social Recognition</th>
<th>Perceived Belonging</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliation</td>
<td>-</td>
<td>.18</td>
<td>.16</td>
<td>.41</td>
<td>.18</td>
</tr>
<tr>
<td>Social Status</td>
<td>.54</td>
<td>-</td>
<td>.08*</td>
<td>.11*</td>
<td>-.02*</td>
</tr>
<tr>
<td>Social Recognition</td>
<td>.48</td>
<td>.42</td>
<td>-</td>
<td>.30</td>
<td>.23</td>
</tr>
<tr>
<td>Perceived Belong</td>
<td>.47</td>
<td>.34</td>
<td>.49</td>
<td>-</td>
<td>.47</td>
</tr>
<tr>
<td>Interest</td>
<td>.17*</td>
<td>.11*</td>
<td>.42</td>
<td>.42</td>
<td>-</td>
</tr>
</tbody>
</table>

**Males**
Mean
- 3.92
- 3.11
- 3.32
- 3.36
- 2.90

Standard Deviation
- .67
- .88
- .81
- .68
- .94

**Females**
Mean
- 4.13
- 2.76
- 3.29
- 3.49
- 2.93

Standard Deviation
- .52
- .83
- .57
- .68
- .75

Note. Bivariate correlations for males (n = 119) appear below the diagonal and for females (n = 223) above the diagonal.

*ns* correlations not significant (*p* > .05)

To examine the relationships among social motivation constructs and interest further and to determine the predictive validity of social motivational constructs in school motivation structural equation modelling techniques were employed. The relationships among the social motivational constructs (i.e., three social motivational orientations, and perceived belonging), and interest in school were examined. This provided a test of the social motivation model in the education domain, another life domain central to adolescents' lives. As with the measurement model testing a two-step, calibration-validation, approach was adopted. That is, first the fit of a priori specified models to the data from a calibration sample was evaluated. Then the model was cross-validated on a second, validation, sample and fit to observed data evaluated.

**Calibration path analyses**

The two models tested with the sport data which reflected the hypothesised relationships among social motivation constructs and interest were specified a priori for the school data. The first model was the full mediational model which reflected the hypothesis that the influence of social motivational orientations on interest is mediated by perceived belonging (see Figure 17). That is, it was hypothesised that social motivational orientations do not directly effect school interest but do so indirectly through their relationship with perceived belonging. The second a priori specified model reflected the proposed elaboration of the relationship among social motivation orientations, perceived belonging, and interest (see Figure 17). In this partial mediation model it was hypothesised that affiliation orientation had a direct
effect on interest as well as the indirect effect via perceived belonging specified in the full mediational model. The fit of these models is summarised in Table 23.

Figure 17. Proposed social motivation models for education.

**Full mediation model**

The full mediation model provided a good fit to the observed data, Scaled $\chi^2 (df = 17, N = 152)$ = 25.24, $p = .09$, BBNNFI = .90, RCFI = .96, RMSEA = .08. The chi square-to-degrees of freedom ratio was 1.48 and the residuals met the recommended levels (average absolute standardised residual = .05, the average off-diagonal absolute standardised residual = .06). This combination of fit indices was considered reflective of good fit because all indices met the criteria for good fit.

Next the parameter estimates for the measurement and structural components of the model were examined. The standard solution for these estimates is provided in Figure 18. For the measurement part of the model, the loadings of the four items on the school interest/enjoyment latent factor were all significant as were the parameters representing measurement error. The loadings ranged from .65 to .75 and the latent factor accounted for between 43% and 58% of the variance in the observed items. For the structural part of the model the direct and indirect relationships among social motivational variables and interest were also examined. The standardised coefficients and associated $t$ values are presented in Table 24. Affiliation orientation and social recognition orientation exhibited significant and positive direct relationships with perceived belonging (affiliation: standardised coefficient = .34; recognition: standardised coefficient = .30). The hypothesised direct relationship between social status orientation and perceived belonging was, however, not supported. As hypothesised greater perceived belonging was associated with greater interest in school (standardised coefficient = .46). The correlations among the social motivational orientations were significant and ranged from .18 to .34. Examination of the indirect effects provided partial support for the hypothesised mediation role of perceived belonging between orientations
Table 23. Fit indices and residuals for a priori specified school social motivation models.

<table>
<thead>
<tr>
<th>Model(^a)</th>
<th>Scaled (\chi^2)</th>
<th>(P)</th>
<th>(df)</th>
<th>(\chi^2/df)</th>
<th>(\Delta\chi^2)</th>
<th>BBNNFI(^b)</th>
<th>RCFI(^c)</th>
<th>Residuals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMSEA(^d)</td>
</tr>
<tr>
<td>Calibration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=152)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>25.24</td>
<td>.90</td>
<td>17</td>
<td>1.48</td>
<td>-</td>
<td>.90</td>
<td>.96</td>
<td>.08</td>
</tr>
<tr>
<td>2</td>
<td>24.69</td>
<td>.75</td>
<td>16</td>
<td>1.54</td>
<td>.55 (^{**})</td>
<td>.89</td>
<td>.96</td>
<td>.09</td>
</tr>
<tr>
<td>Validation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=164)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>49.30</td>
<td>.02</td>
<td>24</td>
<td>2.05</td>
<td>-</td>
<td>.95</td>
<td>1.00</td>
<td>.08</td>
</tr>
<tr>
<td>2</td>
<td>50.65</td>
<td>.01</td>
<td>24</td>
<td>2.11</td>
<td>-</td>
<td>.95</td>
<td>1.00</td>
<td>.08</td>
</tr>
</tbody>
</table>

Note. Calibration sub sample (n = 152) Mardia’s coefficient = 26.72, Normalised estimate = 13.02. Validation sub sample (n = 164) Mardia’s coefficient = 9.88, Normalised estimate = 5.00.

\(^a\)Model 1 = full mediational model, Model 2 = partial mediational model with direct effect of affiliation on interest added.

\(^b\)Bentler-Bonnett non-normed fit index. \(^c\)Robust Comparative fit index. \(^d\)Residual mean square error of approximation index.

\(^e\)Average absolute standardised residual. \(^f\)Average off-diagonal absolute standardised residual. \(^g\)Largest individual residual.

\(^{**}\)not significant (\(p > .05\)).
Figure 18. Standardised solution of social motivation full mediational model in education (calibration sub sample).
Model fit indices, Scaled $\chi^2 (df = 17, N = 152) = 25.24, p = .09$, BBNNFI = .90, RCFI = .96, RMSEA = .08.
Note. $\rightarrow$ significant path ($p < .05$). $\rightarrow$ non significant path ($p > .05$).
and outcomes in sport. Specifically, the affiliation and social recognition variables but not social status showed significant indirect effects on sport interest through perceived belonging (affiliation: standardised coefficient = .15, $t = 3.34$, $p < .05$; recognition: standardised coefficient = .14, $t = 3.18$, $p < .05$). These findings suggest that for adolescents higher in affiliation and recognition orientations, greater perceived belonging is associated with greater interest and enjoyment in school. For adolescents higher in social status orientations, perceived belonging did not appear to influence their interest in school. Finally, the full mediational model explained 28% of the variance of perceived belonging and 21% of the variance of school interest.

Table 24. Standardised direct and indirect effects for school social motivation models.

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effect</td>
<td>t-value</td>
</tr>
<tr>
<td>Direct</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest $\rightarrow$ item 1</td>
<td>.75</td>
<td>-</td>
</tr>
<tr>
<td>Interest $\rightarrow$ item 2</td>
<td>.76</td>
<td>7.09*</td>
</tr>
<tr>
<td>Interest $\rightarrow$ item 3</td>
<td>.69</td>
<td>7.55*</td>
</tr>
<tr>
<td>Interest $\rightarrow$ item 4</td>
<td>.65</td>
<td>7.54*</td>
</tr>
<tr>
<td>Affiliation $\rightarrow$ Belonging</td>
<td>.34</td>
<td>4.57*</td>
</tr>
<tr>
<td>Status $\rightarrow$ Belonging</td>
<td>.03</td>
<td>.37</td>
</tr>
<tr>
<td>Recognition $\rightarrow$ Belonging</td>
<td>.30</td>
<td>4.14*</td>
</tr>
<tr>
<td>Belonging $\rightarrow$ Interest</td>
<td>.46</td>
<td>4.21*</td>
</tr>
<tr>
<td>Affiliation $\rightarrow$ Interest</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Indirect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affiliation $\rightarrow$ Interest</td>
<td>.15</td>
<td>3.34*</td>
</tr>
<tr>
<td>Status $\rightarrow$ Interest</td>
<td>.01</td>
<td>4.2</td>
</tr>
<tr>
<td>Recognition $\rightarrow$ Interest</td>
<td>.14</td>
<td>3.18*</td>
</tr>
</tbody>
</table>

Notes. Calibration sub sample (n = 152). Validation sub sample (n = 164). Model 1 = full mediational model, Model 2 = partial mediational model with direct effect of affiliation on interest added. *$p < .05$.

Partial mediation model

In the second a priori specified model, the partial mediation model, it was hypothesised that affiliation orientation had a direct effect on interest as well as the indirect effect via perceived belonging. The fit of this model to the observed data also demonstrated good fit, Scaled $\chi^2$ ($df = 16, N = 152$) = 24.69, $p = .08$, BBNNFI = .89, RCFI = .96, RMSEA = .09. The chi square-to-degrees of freedom ratio was 1.54 and the residuals met or approached the criteria for good fit (average absolute standardised residual = .05, average off-diagonal absolute standardised residual = .06). The change in chi square, however, did not support a significant improvement in fit ($\Delta \chi^2 = 0.55, \Delta df = 1, p > .05$). The parameter estimates for the direct effects of the social motivational orientations on perceived belonging were the same as they were in the full mediational model. The addition of the direct effect of affiliation on interest made little
difference to the other relationships reflected in the model. The direct effect of affiliation on interest was not significant (affiliation: standardised coefficient = .04, t = .42, p > .05). The model accounted for 28% of the variance of perceived belonging and 21% of variance of school interest. Therefore, although the combination of fit indices was considered indicative of a good fit to the data, the partial mediation elaboration of the social motivation model was not supported.

Validation path analyses

To assess the stability of the parameter estimates and validity of the calibration models cross-validation structural equation analyses were employed. Due to the lack of support for the partial mediation model in the calibration sub sample, only the fit of the full mediation model from the calibration analyses to the data from sub sample Y was evaluated. The unstandardised path coefficients for the paths, factor loadings, variances, and covariances from the calibration model were used as the parameter estimates for the validation model. In cross-validation, rather than determining the pattern of relationships among variables (i.e., which path coefficients are significant and which are not significant) the purpose of the analysis is to determine the extent to which the model established in one sample of observed data fit equally well to another sample. Therefore, the emphasis is on determining the extent of the fit or misfit to the data. The fit of this model is summarised in Table 23.

The fit of the full mediational model demonstrated acceptable fit to the data from sub sample Y, Scaled \( \chi^2 \) (df = 24, N = 164) = 49.30, \( p = .002 \), BBNNFI = .95, RCFI = 1.00, RMSEA = .08. The chi square to degrees of freedom ratio was 2.05 and the residuals approached acceptable levels (average absolute standardised residual = .09, average off-diagonal absolute standardised residual = .08, largest individual residual = -.28). The model accounted for 30% of the variance of perceived belonging and 14% of the variance of sport interest. The standard solution of parameter estimates is presented in Figure 19.

Summary of calibration-validation analyses

In summary, the findings of the cross-validation analysis provided support for the social motivation model in the education domain, specifically the full mediation model. The evidence from the cross-validation analysis supports the stability of the form of the social motivation model as well as the magnitude and direction of the relationships among the social motivational constructs and school outcomes, specifically interest/enjoyment at school. Affiliation and social recognition orientations combined with a greater sense of sport belonging was associated with greater interest/enjoyment in their activities during school. Further, perceived belonging was a significant mediator of the relationship between social motivational
Figure 19. Standardised solution of social motivation full mediation model for education (validation sub sample).
Model fit indices, Scaled $\chi^2 (df = 24, N = 164) = 49.30$, $p = .002$, BBNNFI = .95, RCFI = 1.00, RMSEA = .08.
Note. $\rightarrow$ significant path ($p < .05$). $\Rightarrow$ non significant path ($p > .05$).
orientations and sport interest. The hypothesised role of perceived belonging as a mediator of the relationship between social status orientation and school interest/enjoyment was not supported.

**Perceived belonging as a mediator or a moderator?**

To further examine the mediator/moderator role of perceived belonging in the relationships between social motivational orientations and interest/enjoyment in education two further analyses were conducted. An additional alternative path model was proposed and fit to the data evaluated and a series of multiple regression analyses were conducted examining predictors of interest for high and low levels of perceived belonging.

**Test of additional direct effects on interest**

To test two further direct effects on school interest/enjoyment two paths were added to the partial mediation model. These paths provided a test of the direct relationship between social status and interest and between social recognition and interest. In both calibration and validation sub samples the direct effect of social status on school interest/enjoyment was not significant. For recognition, however, the direct path with interest was significant in the calibration sub sample (standardised coefficient = .28, t = 2.70, p < .05) but not in the validation sub sample. The model demonstrated adequate fit to the calibration sub sample data (Scaled $\chi^2 (df = 14, N = 152) = 17.38, p = .24, BBNFI = .93, RCFI = .98, RMSEA = .07$). Further, the change in chi square was significant ($\Delta \chi^2 = 7.31, \Delta df = 2, p < .05$). Therefore, some support was provided for direct effects of the social validation orientations on sport interest/enjoyment, however, the finding was not replicated in the validation sub sample.

**Predictors of interest for high and low perceived belonging**

In this analysis the sample was split such that two groups were formed, those adolescents relatively high in perceived belonging and those relatively low in perceptions of belonging. The high belonging group consisted of those adolescents reporting perceived belonging that was one half standard deviation or greater above the mean. For this group the mean score for perceived belonging was 4.14 and the standard deviation was .31. In contrast, the low belonging group was comprised of adolescents who reported perceptions of belonging one half standard deviation or greater below the mean. For this group the mean was 2.68 and the standard deviation was .44.

Multiple regression analyses were performed separately for the two groups to determine which, if any, of the social motivational orientations were significant predictors of interest/enjoyment in school. If the predictors of school interest/enjoyment were the same for both groups then there would be no evidence to support a moderating effect of perceived belonging on the relationships. If, however, the significant predictors were different for the
two groups then evidence of moderation would be provided. Results of these analyses are presented in Table 25. For the relatively high belonging group, social recognition orientation ($\beta = .28$, $p < .05$) was a significant predictor of school interest/enjoyment accounting for 8% of the variance in interest/enjoyment. For the relatively low belonging group, the social motivation orientations were not significant predictors of school interest/enjoyment. The results of these analyses provide some support for a moderating effect of perceived belonging on the relationship between social recognition and school interest. There was no support, however, for a moderating effect of perceived belonging on the relationships between the other two social motivational orientations and school interest/enjoyment.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>High Belonging</th>
<th>Low Belonging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliation</td>
<td>.11</td>
<td>.13</td>
</tr>
<tr>
<td>Social status</td>
<td>-.09</td>
<td>.02</td>
</tr>
<tr>
<td>Social recognition</td>
<td>.28**</td>
<td>.18</td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>.08</td>
<td>.03</td>
</tr>
</tbody>
</table>

** $p < .01$

**Summary of chapter six**

The results of these analyses provided evidence supporting the predictive validity of the social model of motivation in two domains central to adolescents’ lives, sport and education. Affiliation orientation, social recognition orientation, and perceived belonging were related to interest in both domains, while social status orientation was not related to interest or perceived belonging. Further, the model of social motivation demonstrated good fit to the observed data relating to sport and school experiences and was cross-validated in a second sub sample of data from each domain. The model accounted for a moderate amount of variance in sport and school interest/enjoyment. The pattern of significant and non significant path coefficients provided support for the hypothesised relationships among social motivation orientations, perceived belonging, and interest/enjoyment. The pattern and magnitude of relationships, however, were not identical across domains. Specifically, with the sport data affiliation orientation had a much stronger association with interest than it did in the education data. This led to support for a partial mediation model in sport but not in education. Further, preliminary evidence was provided suggesting that perceived belonging may be better conceptualised as a moderator of the relationships between social validation orientations and outcomes such as interest/enjoyment. In the final chapter of this thesis the results of both measurement and path models are discussed as well as the conceptual and practical implications and future directions for this area of research.
CHAPTER SEVEN: DISCUSSION AND FUTURE DIRECTIONS

Overview

The purposes of this research were to develop a model of social motivation to capture the social meaning individuals attach to sport participation, to develop and provide evidence of validity and reliability for measures of the central social motivational constructs, and to empirically examine the relationships hypothesised in the social motivation model. In chapter 1, it was argued that sport is a social context and that it has social meaning to participants. Further, it was suggested that sport researchers' focus on physical competence achievement meaning and related constructs for understanding the youth sport experience is narrow. Finally, it was argued that although social motivation - the desire to develop and/or demonstrate social connections with significant others - is not new to motivation research it has been relatively ignored by sport researchers. In doing so researchers have failed to fully explore the contribution social motivation has to understanding children's and adolescents' sport experience. In chapter 2, further evidence of the salience of social aspects of sport to participants was provided through review of the sport participation and attrition motivation literature. Review of current theoretically based approaches to sport motivation, however, revealed a paucity of research investigating why and how social motivation impacts the motivational processes active in youth sport contexts and affects children's and adolescents' sport experience.

In light of these findings a theoretically based model of social motivation in sport was developed in chapter 3. The development of this model was informed by the common elements identified in current sport motivation perspectives and research from education and social psychology that had examined social motivation. Further, several research hypotheses were proposed relating to measurement development and testing of the relationships proposed in the social motivation model. In chapter 4, the methods employed to test these hypotheses were described and in chapters 5 and 6 the results of the measurement and path analyses were presented. In this final chapter, the findings of this investigation and future directions for research in this area are discussed. First, the unique features of the social motivation model are discussed. Second, the findings of the measurement phase are discussed in light of the propositions forwarded in chapter 3 and in past research. Third, the findings of the relationship testing phase of the investigation are discussed with reference to the hypotheses reflected in the
social motivation model and relevant related research. Fourth, the future directions with regard to extending the model of social motivation are discussed.

A social motivation perspective

The social motivation model presented in chapter 3 was developed in an attempt to fill a void in the field. Despite, interest in the social motives, sources of affect, and social relations, the field lacked a theoretical framework, clear conceptualisation of key constructs, and valid measurement instruments with which to examine social motivation in youth sport. Therefore, a social motivation model was proposed to provide a theoretically based framework for the study of the social motivational aspects of youth sport. The proposed model has several features that make its contribution to the area of understanding youth sport motivation unique. First, the model focused on the social meaning of sport to participants rather than their discrete social goals. Second, two social motivations were conceptualised and assessed rather than the one social approval orientation examined in previous attempts to describe social orientations in sport (e.g., Ewing, 1981; Whitehead, 1995). Third, perceived belonging is viewed as the critical mediator between individual difference factors (i.e., motivational orientations) and motivational outcomes. Fourth, the model focused on general psychological processes that underpin socially motivated behaviour.

The basic premise of the social motivation model is that sport has social meaning to participants. That is, individuals have a basic need for social connections and because sport is a social context sport involvement provides an opportunity for individuals to meet this need. It was proposed that the meaning of sport involvement for children and adolescents is not just about the development or demonstration of physical ability. Sport also provides participants with a vehicle to develop and demonstrate social bonds with others. It provides an opportunity to feel connected to other individuals. The social nature of sport provides an opportunity to develop a sense of belonging, something that requires regular contact, the perception that the relationship has stability, affective concern, and is on going (Baumeister & Leary, 1995). These factors both encourage and maintain investment in the context. A theory of youth sport motivation that centres on social connections and belonging provides a unique perspective on social motivation in sport. A perspective that has not been adopted by other researchers who have focused upon social goals in sport (e.g., Ewing, 1981; Whitehead, 1995; Williams, 2001).

Adopting a social meaning approach sets this model apart from other attempts to examine aspects of social motivation. The model differs from other attempts to uncover the importance and influence of social aspects of motivation primarily because the focus is on social meaning rather than physical achievement. That is, participants' engagement in sport
means something to them because their involvement provides a vehicle through which they can feel connected with other individuals. They can feel they belong. The energiser of their behaviour is the desire for social bonds. The need to belong. Other attempts to examine social motivation have been grounded in competence motivation theories (e.g., Ewing, 1981; Lewthwaite & Papiro, 1993; Whitehead, 1995) and even current thinking of some researchers maintains this emphasis (e.g., Cummings, Gano-Overway, Stefanek, & Ewing, 2000; Williams, 2001). In these theories, the energiser of behaviour is a desire for competence, typically physical competence. Although there is likely to be some overlap between physical and social motivational approaches, examining social motivation within a physical competence achievement motivation framework may confound and confuse our understanding of both areas.

Central to the social motivation model developed in this thesis is the concept of motivational orientations. That is, social goals were conceptualised as orientations rather than discrete goals. Conceptualising social goals as motivational orientations parallels theorising related to competence motivation. Harter (1978, 1981a), Maehr and Nicholls (1980), Nicholls (1984, 1989), and Deci and Ryan (1985a) all proposed a concept of motivational orientations. Although each emphasised a different aspect of the orientations, they all viewed orientations as relatively stable dispositions that influence how events are interpreted and responded to. Therefore, in developing the social motivation model a concept such as motivational orientations was believed to be critical.

Social motivational orientations as a concept provided an important extension and clarification of existing social goal research. It provided an explanation for the psychological processes of social motivation and its psychosocial consequences. Although individuals might pursue one or multiple discrete social objectives in any given situation, a concept like social motivational orientations was necessary to explain why these goals are pursued. Rather than simply describing what individuals are trying to do in a given situation, orientations provide an explanation as to why they are trying to do what it is they are doing. For example, Wentzel (1991, 1993, 1996) was able to describe a number of social goals students pursued at school such as prosocial, social relationship, social interaction, and social responsibility goals and how often students reported pursuing these goals. Her research, however, did not explain why these social goals were pursued, what pursuit of these goals meant to the students, or why one goal was pursued over others. In contrast, social motivational orientations, as conceptualised here, reflect the meaning of the situation to individuals, how situations are interpreted and responded to.

It was also hypothesised that distinguishing between two types of social motivational orientations would be useful in explaining individuals' quality of motivation. Such a distinction had not been made in previous attempts to assess social orientations in sport. For example,
Ewing, (1981), Whitehead (1995), Cummings et al, (2000), and Williams (2001) all focused on assessing only a social approval orientation. It was proposed that the social meaning individuals attach to sporting events is more than simply a desire for approval. Individuals have other reasons, other meaning, for their behaviours. For example, as this investigation demonstrated individuals feel things have gone well when friendships are developed, and mutual relationships maintained. In addition, friendship research indicates that positive perceptions of friendships are associated with positive affect toward physical activity (Smith, 1999). An emphasis on affiliation is a very different world view to an emphasis on validating one's self worth through gaining approval, recognition, or social status. Therefore, it was proposed that social interactions in sport may be viewed as an opportunity to develop and maintain reciprocal relationships (affiliation orientation) or an opportunity for self validation through gaining social approval or social status (social validation orientation). These orientations reflect 'world views' individuals hold that underpin and explain predictable patterns of thoughts, feelings, and actions and therefore the distinguishing feature between the orientations serves to explain why these patterns occur. Another important feature of motivational orientations and one that further distinguished them from discrete goals was that of stability. Social motivational orientations were conceptualised as dispositions that are relatively stable across domains. That is, individuals develop tendencies to interpret and respond to events in certain ways and they bring these orientations with them to the situation.

Another unique feature of the social motivation model was that it was proposed that central to the social meaning individuals attach to their sport involvement is belonging. That is, the need to belong is an energiser of behaviour in social context, (Baumeister & Leary, 1995). Further, sport is a social context and part of many children's and adolescents' social world. The social interactions within sport affect children's and adolescents' psychosocial development (Bredemeier, & Shields, 1996; Brustad, 1996; Weiss, 1993). Not only does the need to belong provide the impetus for behaviour in social contexts such as sport but the consequences of these actions are likely to effect their sport experience and psychosocial development. Therefore, developing an understanding of belongingness and perceptions of belonging in sport will help researchers understand more about the psychological processes that underpin not only children's and adolescent's motivation but also the developmental consequences of participation.

A concept similar to perceived belonging, perceived relatedness, was included in Vallerand's (1997) extension of Deci and Ryan's (1985) self-determination theory. The motivational implications of this construct have yet to be empirically examined within the sport context. Further, self-determination theory emphasises the role of situational factors in moderating perceptions such as relatedness. It pays only limited attention to individuals difference factors and their association with self-perceptions. Therefore, theorising about and
examining the role of perceived belonging in sport also sets the social motivation model apart from other motivational approaches adopted by youth sport researchers.

Finally, the social motivation model focused on general psychological processes that comprise social motivation. Similar suggestions and support have been provided for the generalisability of motivational models based on examining meaning, motivational orientations, and self-perceptions. For example, Duda and Nicholls (1992) demonstrated generalisability of their achievement motivation framework in school and sport. Therefore, although the model was developed for sport contexts, it was hypothesised that the model would generalise to other social contexts in adolescents' lives such as school.

In summary, the social motivation model was developed to address a void in the field. That is, a lack of a theoretically based framework for the examination of social motivation in youth sport. By emphasising the social side of sport, by emphasising the centrality of social connections and belonging, the social motivation model provides a unique perspective on social motivation in sport. Before the relationships proposed in the model could be tested measures of the central constructs needed to be developed and evidence provided supporting their validity and reliability. In the next section the findings of the measurement phase of this investigation are discussed.

**Measuring social motivational constructs**

**Social motivational orientations**

In the social motivation model a distinction between affiliation and validation orientations was proposed. As already discussed other attempts to conceptualise social goals have focused on examining just one social motivational orientation, social approval orientation (e.g., Ewing, 1981; & Whitehead, 1995) and a number of researchers still favour this approach (e.g., Cummings, et al, 2000; Williams, 2001). This is a narrow view of individual dispositions related to social motivation. Further, it was clear from the confirmatory factor analyses in this investigation that a one-factor general social orientation structure did not adequately fit the data.

The construct validity and internal consistency of the proposed two orientation view of social motivation was supported. Although the confirmatory factor analyses did not support the initial two factor model, support was demonstrated for a refined two factor model. This refined model retained the distinction between affiliation and validation orientations, however, the validation orientation was split into two further sub scales (i.e., social status and social recognition). This model demonstrated acceptable fit to the data, all factor loadings were significant, and the latent factors accounted for a moderate amount of variance in each of the
items forming the respective sub scales. Further, the fit of an appropriately parameterised model was also successfully cross-validated on a second sub sample. These findings support the contention forwarded in this investigation that sport has social meaning to participants. The adolescents in this investigation endorsed affiliation, social recognition, and to a lesser extent social status orientations towards sport. That is, they felt things had gone well in their sport if they made friends, got to spend time with friends (affiliation), or they received recognition from others for their accomplishments, others were impressed by their ability (social recognition). To a lesser extent they felt their sport involvement went well if they were one of the more popular players or part of the 'in' crowd.

Several researchers in educational and social psychology have adopted a similar distinction in their examination of social goals. For example, A. Ryan and colleagues (1997) distinguished between intimacy and social status goals. Intimacy goals reflected concern with forming and maintaining positive peer relationships and a desire for close and intimate friendships at school. In contrast, social status goals reflected a desire for social visibility and prestige within the larger peer group by being associated with the 'popular' group at school. Kasser and Ryan (1993, 1996) distinguished between social recognition and affiliation life aspirations. A social recognition aspiration reflected a desire to be famous, well-known, and admired. In contrast, an affiliation aspiration reflected a desire to have good friends, people who cared about and supported you and whom you had fun with. Social interactions are not always characterised by a desire to gain social approval or self validation. Interpersonal interactions also present other opportunities such as to develop and maintain mutual close relationships. In the present investigation the conceptualisation of social motivational orientations and the scale developed to assess these orientations captured this distinction between the view of social interactions as an opportunity for self-validation from others and an opportunity for social development.

**Cross domain stability of social motivational orientations**

Another important feature of motivational orientations and one that further distinguished them from discrete goals is that of stability. Social motivational orientations were conceptualised as dispositions that are relatively stable across domains. That is, individuals develop tendencies to interpret and respond to events in certain ways and they bring these orientations with them to the situation. Therefore, it was hypothesised that similar social motivational orientations would exist in sport and education settings and that these orientations would be relatively stable across sport and education domains. To test this hypothesis the stability of the factor structure of the scale developed to assess the social motivational orientations was evaluated across data from sport and education settings. Results of the multiple group confirmatory factor analysis indicated the factor structure of the scale was
relatively stable across the domains of sport and education. The model constraining the parameters of the sport and education data to be equal provided good fit to the data. The factor structure and the factor loadings, with the exception of one item, were consistent across the data from the two domains.

To examine the cross domain stability hypothesis further, correlations between sport and school measures were calculated. The cross domain correlations provided some support for the dispositional nature of social motivational orientations. Specifically, the correlations were moderate, although weaker in the case of social recognition, and higher than the correlation between interest in sport and school. The weaker correlation for social recognition may be due to differences in the importance these adolescents' placed on accomplishments and ability in sport and school. That is, the social recognition orientation emphasised gaining approval for accomplishments, however, some participants may have preferred recognition in sport and not in school, while others preferred recognition in school and not in sport. This explanation is supported by evidence from researchers examining peer relations indicating that boys may place more importance on sporting endeavours whereas girls may place more importance on academic achievements (Chase & Dummer, 1992; Buchanan, Blankenbaker, Cotten, 1976). Finally, the cross domain correlation for perceptions of belonging was moderate and higher than expected. An explanation for this finding may be that for adolescents' the important social connections are those with their peers and for many their classmates and those they participate in sport with may be from the same peer group. Therefore, because the sport and school groups may constitute a number of the same individuals, if adolescents feel a social bond with their team mates in sport they are also likely to feel a connection with their school mates.

Some evidence, therefore, was provided for the stability of views about social connections across different areas of individuals' lives. That is, individuals' concerns about or focus on the development and demonstration of social bonds tended to generalise from one context to another. For example, individuals who scored higher on affiliation orientation in sport also tended to score higher on affiliation orientation in school. Thus some support was provided for the proposed dispositional nature of social motivational orientations. That is, individuals' concerns about or focus on the development and demonstration of social bonds tend to generalise from one context to another.

The evidence supporting cross domain stability of the social motivation orientations is consistent with, but perhaps not as strong as, evidence of the cross domain generality of physical achievement goal orientations demonstrated by Duda and Nicholls (1992). They assessed students' task and ego goal orientations toward schoolwork and sport. In an exploratory factor analysis of both school and sport data they found that the task items from school and sport factored together and the ego items from both domains also factored together.
but separately from the task items. Further, cross domain correlations between orientations were moderately high. Together these findings and those from the present investigation support the proposition that motivational orientations are dispositions that are relatively stable across at least two of the domains of individuals' lives, sport and education.

**Measurement issues**

The scale developed here to assess social motivational orientations has advantages over previous attempts to assess social motivational orientations for three reasons. First, previous efforts to delineate social motivational orientations have included assessment with physical achievement orientation assessment (e.g., Ewing, 1981; Lewthwaite & Papiro, 1993; Whitehead, 1995). Further, social approval and ego goal orientation items have even been combined in an ego/social orientation (e.g., Meece, Blumenfeld, & Hoyle, 1988; Nicholls, et al., 1985). Nicholls, Cheung, Lauer, and Patashnick (1989) suggested the practice of combining social and ego goal orientations may confuse the issue stating, in reference to the Nicholls et al (1985) study, that “on reflection, these social orientation items are more ambiguous than desirable. The nature of social orientations is a topic in its own right and we deal with it poorly in that study” (p. 70). In keeping with the sentiment of Nicholls et al (1989) and others (e.g., Midgley et al, 1998) in this investigation a separate scale was developed to assess social motivational orientations, thereby providing an opportunity to disentangle social from other motivational orientations and study them in their own right.

Despite the strengths of the social motivational orientations measure there is some room for improvement. Although the confirmatory factor analyses revealed good model fit and three distinct factors were supported there was some overlap as indicated by the correlations between the sub scales. For example, the correlation between affiliation orientation and both validation orientations was greater than desirable. Refinement of how the constructs are operationalised, the item content, and wording may help to clarify the distinction between the social orientations. In addition to refining the distinction between affiliation and validation orientations, in the present investigation the emphasis of validation orientation items was delimited to recognition for physical ability accomplishments and popularity amongst peers. This distinction was an elaboration of Maehr and Nicholls' (1980) original conception of one social approval orientation, however, there may be others ways in which social approval or validation is viewed and obtained that have important motivational consequences.

In the present investigation, the validation orientations differed in the way in which social approval is viewed and obtained. The social recognition sub scale emphases an association between physical competence or accomplishments and recognition from significant others. In contrast, the social status sub scale emphases popularity amongst peers and being part of the popular or 'in' group not necessarily associated with physical ability. Individuals
may also feel they gain approval or validation from significant others for improving their personal performance, putting forth high effort, or bringing honour to their family or group. For example, in a study of exercise participants Hayashi (1996) found that for Hawaiian but not Anglo-American participants a sense of in group pride and harmony such as making family proud, receiving support and feedback, seeing the pride one parents’ faces was characteristic of a positive activity experience. Further, Urdan and Maehr (1995) suggested that the behaviour for which approval is received may depend on the target individual. That is, individuals desiring social status amongst peers may see demonstrating superior physical ability as the means of obtaining validation. In contrast, individuals desiring recognition from a coach may see trying hard as a means of gaining coach approval. Whether, all of these behaviours and concerns are really about validation of one’s sense of self is questionable. Some may be more closely associated with personal growth and development within one’s social network (e.g., in group pride) than validation of one’s sense of self. Equally, they may not all lead to maladaptive patterns of thoughts, feelings, and actions. Some may have adaptive consequences such as persisting in the face of difficulty or competing interests (Blumenfeld, 1992) and even facilitate the development of intrinsic motivation (Ryan & Deci, 2000). Therefore, clarification of what individuals believe they get recognition and approval for in sport contexts and whether this reflects an underlying concern with personal growth and development or validating who one is as a person may help researchers to better understand the validation orientation and refine measurement tools to assess the construct.

Perceived belonging

The scale employed to assess perceptions of belonging in sport was an adaptation of Goodenow’s (1993a) psychological membership scale. Descriptive and confirmatory factor analyses provided evidence supporting the construct validity and internal consistency of this measure. The factor structure of the sport version was replicated in two sub samples providing evidence of validity. The pattern of covariances among the items of the PBS was best represented by the unidimensional construct proposed by Goodenow. Adequate fit, however, was obtained after some of the unique (or error) variance of several items was accounted for by correlating several error terms in the model.

As hypothesised perceived belonging was predictive of individuals’ level of involvement in sport. Individuals who differed in the number of sports they participated in also differed in their perceptions of sport belonging. Specifically, individuals reporting the greatest involvement in sport (i.e., participation in 3 or more sports) also reported the highest level of perceived belonging. Individuals reporting moderate involvement in sport (i.e., participation in 1 or 2 sports) were next highest in level of perceived belonging and those participants reporting no participation in sport had the lowest level of sport belonging. It seems logical that
individuals who feel they are accepted, respected, and that they fit in within their sports groups are those who have the highest level of sport participation. If sport provides fulfilment of the fundamental psychological need for social bonds with significant others then it seems reasonable that individuals who perceive a greater sense of belonging in sport will be more satisfied and remain involved. This association between perceived belonging in sport and level of involvement is also consistent with research in education. For example, Goodenow (1993a) found that students with higher levels of perceived belonging were less likely to indicate a desire to transfer to another school the following year and they were also less likely to be absent and tardy. These findings support the contribution of a construct such as perceived belonging in furthering researchers understanding of the psychological processes central to youth sport motivation.

**Measurement issues**

Although demonstrating acceptable fit to the data there are two issues that researchers employing this scale may want to consider. First, the low factor loadings and large error terms associated with the three negatively worded items indicated that participants responded differently to these items compared with the positively worded items. It is a relatively common and recommended practice in scale construction to reverse a proportion of items to avoid respondents developing a response set. The findings of this investigation, however, suggest this practice may create other problems such as failure to confirm scale dimensionality through factor analysis techniques and therefore lead researchers to question the validity of the scale. It will be important to consider error in the measurement and how this might best be accounted for in the measurement model. In the present investigation the theory of error adopted was based on an assumption that much of the unaccounted for unique variance was error in the measurement attributable to nature with which the items were worded. Therefore, by correlating the error terms of the negatively worded items much of this unique variance could be accounted for.

Employing a theory of error provided a way to successfully deal with the issue of unaccounted for error in the measure. It does not, however, alter the fact that individuals appear to respond differently to negatively worded items. Researchers may want to consider carefully the use of this strategy for reducing response set when validity is to be assessed through measurement modelling. This is perhaps even more poignant given Kerlinger and Lee's (2000) comment regarding response set. "While response set can be considered a mild threat to valid measurement, its importance has been overrated and the available evidence does not justify the strong negative assertions made by response set enthusiasts." (p. 713). Kerlinger and Lee's comment should be qualified, however, with the caution that the extent to which
response set poses a threat to validity may depend on the topic and the characteristics of the respondents (e.g., teenagers and controversial or illegal issues).

Second, the error terms of two other items were also allowed to correlate. This correlation was between the two items reflecting the coach's role in perceived belonging. It is reasonable to suggest that these two items share some variance that is not shared with the other perceived belonging items. Therefore, correlating these error terms was justified. This finding, however, does indicate an area for refinement of the perceived belonging scale. Specifically, future versions of this scale might remove these items leaving a set of items that focus more closely on a general sense of belonging in sport. Including items about the coach may be tapping sources of belonging rather than a general sense of connection with others. In addition, future research might examine the relative importance of certain sources of belonging and determine the extent to which the coach is an important source for this age group. Researchers examining sources of physical competence information have demonstrated a shift toward the peer group and self-referenced sources of physical competence information in adolescence (Horn & Harris, 1996). Perhaps with regard to perceptions of belonging it is the connections with peers that is the salient source of belonging for adolescents.

Summary

In summary, the measurement development in the current investigation provides researchers with two instruments with which to examine social motivational constructs in sport. The research in this investigation provides evidence supporting the construct validity and reliability of the scales developed to assess these constructs in sporting contexts. The proposed models were supported, cross-validated, and the social motivational orientations scale also demonstrated cross-domain validity. As Brewer (2000) noted about social psychological research “most social psychological researchers accept the philosophy that the specific operations and measures employed in a given research study are only partial ‘representations’ of the theoretical constructs of interest - and imperfect representations at that” (p. 6). She also noted, however, that “our theoretical constructs must be abstract enough to generalise across a range of contexts and specific manifestations yet precise enough to permit testing at an empirical level. ...... Validity is never the achievement of a single research project but the product of cumulative theory-testing and application.” (p. 15). This investigation was delimited to students aged 13 to 17 years. These participants were from middle and upper class family backgrounds and lived in the midlands regions of the United Kingdom. Future research replicating these findings in other samples, across different age groups, with different backgrounds, and in different settings will provide further evidence of the validity and reliability of the operation and measurement of these theoretical constructs in the sport domain. Having established support for the validity and reliability of the measures of the central social
motivational constructs, the relationships proposed in the social motivation model could now be examined. In the next section the results of these analyses is discussed.

Social motivation and adolescents' interest/enjoyment

Sport

In the present investigation the extent to which adolescents’ sport interest/enjoyment was predicted by the social motivation model was assessed. Interest and enjoyment in sport is an important construct to examine initially because it is a major reason for participating in sport while lack of enjoyment is an important determinant of withdrawal (e.g., Gill et al., 1983; Weiss & Petlichkoff, 1989). Further, individuals who are interested in their sport activities and enjoy their involvement are more likely to desire to continue to participate in sport (Harter, 1981a; Scanlan & Lewthwaite, 1986; Scanlan et al., 1993). The findings of this investigation suggest that the amount of variance in interest explained by social motivation (28-35%) is in the range of variance explained in outcomes by physical achievement models (i.e., 15-40%) (e.g., Boyd & Yin, 1996; Duda & Nicholls, 1992; Hall & Kerr, 1997). Therefore, the social motivation model provides a compelling alternative and additional explanation of the relationships between the psychological processes underpinning children's and adolescents' sport motivation and consequences of participation.

Distinguishing between types of social motivational orientations was considered a critical aspect of the social motivation model because it provided an explanation for individuals' quality of motivation. In the social motivation model it was proposed that an affiliation orientation would lead to a pattern of motivationally adaptive thoughts, feelings, and actions whereas a social validation orientation would lead to a less adaptive pattern. Further, it was hypothesised that perceived belonging would mediate the relationship between affiliation, recognition, and status orientations and interest/enjoyment in sport. The full mediation model (see Figure 20) exhibited good fit to the data from the calibration sub sample and approached adequate fit to the data from the validation sub sample. These findings generally support the proposed full mediation model of social motivation.

![Figure 20. Full and partial mediation social motivation models](image-url)
A second, partial mediation model (see Figure 20), however, also exhibited good fit to the data from both calibration and validation sub samples and in both sub samples demonstrated a significant improvement in model fit over the full mediation model. This finding suggests a modification to the proposed model of social motivation may be warranted. Specifically, that affiliation orientation has a direct effect on sport outcomes as well as an indirect effect on these outcomes through perceived sport belonging. An explanation for the direct relationship between affiliation orientation and interest in sport may be the extent to which sport interest is contingent upon perceived belonging for affiliation oriented individuals compared with validation oriented individuals. According to Nicholls' (1984) achievement goal theory, because task oriented individuals are interested in personal development, mastery, and improvement their thoughts feelings and actions are less contingent upon perceptions of ability compared with ego oriented individuals for whom success is defined through the demonstration of ability. A similar explanation may be applied for affiliation oriented individuals. That is, because these individuals are concerned with the development and maintenance of mutual relationships rather than the demonstration of their social standing, affiliation oriented individuals' interest and enjoyment may be less affected by perceptions of their connections with significant others. Affiliation oriented individuals are more concerned with the process of meeting social goals and do not need to belong in order feel these have been fulfilled.

The positive indirect relationship between social recognition and sport interest through perceived belonging was consistent with hypotheses. This suggests that positive outcomes may only be associated with a social recognition outcome when perceived belonging is high. Although it was proposed that validation orientations would be related to less adaptive functioning, this finding is still consistent with the tenets of the social motivation model. Specifically, it was proposed that maladaptive responses would be most pronounced when validation oriented individuals began to doubt their sense of belonging, their social connections were threatened, or even broken. In this investigation, participants reported moderate levels of sport belonging and therefore it is unlikely they felt their social bonds were under threat. This explanation is similar to Nicholls' (1984; 1989) and Dweck's (1999) explanations of the negative consequences of an ego or performance goal orientation when physical ability is questioned.

The lack of association between social status orientation and sport interest was contrary to hypotheses. A possible explanation for this lack of association is that perceived belonging is not the central mediator for this orientation. Rather perceived physical competence may mediate the relationship between social status orientation and sport outcomes. This explanation is supported by research that has demonstrated that, particularly for boys, being good at sports is important for peer acceptance (Chase & Dummer, 1992; Evans & Roberts,
Therefore, although both social status and social recognition were conceptualised as validation orientations, they have different foci. These different concerns may lead to and explain different patterns of cognitions, affect, and behaviours. According to the social motivation model, however, because both orientations reflect a concern with validating one's sense of self, whether it be through gaining social approval or demonstrating social status, they should both be associated with less adaptive patterns of thoughts, feelings, and actions. This theorising is consistent with research demonstrating that individuals who felt they had to continually prove and validate their sense of competence, likability and self-worth displayed less adaptive functioning in response to stressful situations compared with individuals who were more concerned with personal growth and development (Dykman, 1998).

The findings related to the relationships with social motivational orientations are for the most part consistent with the limited research examining correlates of social goals in education. Endorsement of social relationship and intimacy goals, similar to the concept of affiliation orientation employed in this investigation, have been associated greater self-efficacy for academic work, help-seeking behaviour, and positive affect toward school. In contrast, goals concerned with social status have been associated with avoiding seeking help with academic work and negative affect towards school (Anderman, 1999; Anderman & Anderman, 1999; Patrick, et al, 1997; A. Ryan, et al, 1997).

The hypothesised direct relationship between perceived belonging and sport interest/enjoyment was supported. Greater perceived belonging in sport was associated with greater sport interest/enjoyment, suggesting that adolescents' attraction to sport and positive experiences while engaged are influenced by the extent to which they feel accepted, respected, and a real part of something. This parallels findings in education research which indicated that a greater sense of belonging at school was associated with more positive and less negative affect toward school (Anderman, 1999; Anderman & Anderman, 1999; Roeser, et al, 1996). These findings are also consistent with research in education which has demonstrated greater perceived belonging to be associated with a cluster of positive outcomes including higher positive affect and lower negative affect toward school, greater sense of academic self-efficacy, lower self-consciousness, higher academic grades, greater teacher-rate effort, desire to stay in their existing school, and lower absenteeism (Goodenow, 1993a; Roeser et al, 1996; Anderman, 1999). Feeling that one belongs, is connected with significant others is clearly important to individuals in both sport and education settings. Further, it has been associated with a cluster of positive outcomes. Much remains to be explored with regard to the consequences of perceptions of belonging in the sport context, however, this investigation provided researchers with both a theoretically based framework and valid measurement instrument to begin to systematically explore this area. Further, this study extends the research conducted in education by examining the role of perceived belonging as a mediator. In the education
research above the nature of the role of perceptions of belonging in these associations between orientations and outcomes has not been examined other than as another correlate. By examining the mediation role of perceived belonging in social motivation the social motivation model proposed and path analyses conducted in this investigation extend the research on social goals in social motivation.

In this investigation it was proposed that perceived belonging mediates the relationship between affiliation orientation and interest in sport. If the effect of an affiliation orientation on interest was only mediated by perceived belonging then the direct relationship between affiliation and interest would be expected to be close to zero when the indirect path was included in the model (Barron & Kenny, 1983). The results, however, suggest that perceived belonging is only a partial mediator of the relationship because both the direct and indirect paths were moderate and significant. The direct path suggests that adolescents who see sport as an opportunity to develop and maintain friendships and positive interpersonal relationships also have greater interest in and enjoy sport regardless of their level of perceived belonging. The indirect path, however, suggests that for affiliation oriented adolescents perceived belonging is still an important contributor to their sport experience and that greater perceived belonging may further enhance their interest and enjoyment in sport.

Results of several additional analyses revealed evidence to supporting the view that perceived belonging may be best conceptualised as a moderator rather than a mediator of the relationships between social validation orientations and outcomes such as interest/enjoyment. In sport and education for individuals relatively high in perceived belonging social recognition was a significant predictor of interest/enjoyment. In contrast, for those participants relatively low in perceived belonging social recognition was not a significant predictor of interest/enjoyment. Therefore, it appears that for individuals high in social recognition orientation their interest and enjoyment of sport and school is contingent upon feeling that they belong. This finding is similar to the moderating effect perceived ability has on the relationship between an ego goal orientation and outcomes (Nicholls, 1984). Individuals high in ego orientation are expected to choose to participate, persist, put forth effort only when they perceived their ability to be high. When/ if these individuals begin to question their ability or believe they have low ability then maladaptive thoughts, feelings, and actions are likely to result. Therefore, perceived ability moderates the relationship.

The path analyses and multiple regression analyses provided evidence that perceived belonging does not moderate the relationship between affiliation orientation and interest. Affiliation was a significant predictor of interest regardless of the level of perceived belonging. This suggests that for individuals high in perceived belonging their interest in sport is not contingent upon their perceptions of social bonds with significant others. This is consistent with the theorising presented in Chapter 3. It was suggested that an affiliation orientation
would be associated with adaptive patterns of thoughts, feelings, and actions because this world view is a tendency to focus on the process of development and maintenance of social bonds and sport provides an opportunity to do so. Therefore, whether individuals feel they belong or not sport provides an opportunity to develop relationships with significant others. Further, for individuals high in affiliation orientation, unlike those high in social validation orientations, social situations do not represent an evaluation of one's sense of self.

Implications for practitioners

For practitioners, adopting a social approach to sport may be a different emphasis to that typically on physical ability development. This approach may, however, also be useful in achieving the 'other' purposes of sport. That is, there is a widely held belief that sport has the potential to develop prosocial attitudes and behaviours such as citizenship, altruism, respect for others, team work, co operation and other valuable life skills such as commitment, organisation, accept responsibility for your behaviour, and to set and attain goals (Danish, Petitpas, & Hale, 1995; Martens, 1993; Weiss, 1995). Although highly valued social qualities, sport often fails to achieve these ends. A programme that emphasises the social meaning of sport participation, promoting sport as an opportunity to develop friendships, co operation, acceptance of individuals for who they are not how good they are at sport could prove more successful in achieving these prosocial ends.

School

The social motivation model was developed specifically for sport, however, it deals with general psychological processes in social contexts. Therefore as an explanation of social motivation in social contexts, it was hypothesised that the model would also predict interest/enjoyment at school, another domain central to adolescents' social world. Consistent with hypotheses the social motivation demonstrated good fit to the school-related data from two sub samples. Similar to the sport findings perceived belonging was directly related to adolescents' interest/enjoyment of school. Further, affiliation and social recognition orientations were related to interest/enjoyment indirectly through their association with perceived belonging. This supported the hypothesis that perceived belonging mediates the relationship between social motivational orientations and outcomes. The model accounted for less variance in school interest/enjoyment (14 - 21%) compared with the sport data (28 - 35%). This finding was consistent with Duda and Nicholls' (1992) finding for an achievement motivation model's account of sport and school enjoyment. Specifically, their school-related personal goals and perceived ability predicted 20% of the variance in school enjoyment. Further, this was less than that predicted in sport enjoyment by sport-related personal goals and perceived ability (39%).
Despite the similar findings across the sport and school domains, a difference was found between the sport and school data. That is, the school data did not support the partial mediation model. In the partial mediation model a direct relationship between affiliation orientation and interest/enjoyment was tested. The addition of this path did not improve the model fit and the path coefficient was not significant. A possible explanation for this difference between social motivation in sport and school contexts maybe related to the extent to which individuals see social interactions as an inherent part of the activities in that context. Affiliation oriented individuals may choose to participate in sport because it provides them with a context in which they can develop social connections. Further, they may see sporting activities as social activities. Their interest/enjoyment in sport is therefore linked to their view of sport as a social opportunity. At school, however, pupils may separate social activity from schoolwork. They may choose to go to school and see going to school as an opportunity to develop social connections, however, this can be achieved in the playground during breaks. It may have little to do with their interest/enjoyment of activities in the classroom. The scale used to assess interest/enjoyment at school contained items focusing on the academic activities in the classroom as opposed to the more general school activities that may occur outside the classroom. If the participants had been asked about their interest/enjoyment of other school activities such as breaktime and fieldtrips perhaps the direct relationship between affiliation orientation and interest/enjoyment would have been similar to that found in sport.

**Implications for practitioners**

One finding that is likely to be important for practitioners is that perceived belonging was positively related to interest/enjoyment. That is, a greater sense of belonging in school was associated with greater academic interest/enjoyment. This relationship demonstrates the importance of social aspects to understanding academic motivation as well as social motivation. That is, if individuals feel they are a part of their school then they are more likely to enjoy and be interested in the academic activities that occur in the classroom. Therefore, educators should not ignore the social environment pupils find themselves in at school, social interactions, and relationships that are developed. These are all likely to influence children's and adolescents' perceptions of belonging at school. Researchers in education have begun to recognise the importance of social connections for understanding children's and adolescents' academic motivation and school experience (e.g., Anderman, 1999; Goodenow, 1992, 1993a, 1993b; Roeser et al, 1996). This area is in its infancy and there is much left to discover about the role of perceived belonging in the school experience. As suggested with regard to social motivation in sport, future research might begin to explore the sources of school belonging and to examine the factors that moderate perceptions of school belonging. These would provide educators with useful information to base strategies to enhance children's and adolescents'
psychosocial growth, school experience, and perhaps even academic achievement. In summary, the findings of this investigation support the generalisability of the social motivation model to the education domain. It is important to note, however, that in generalising from one domain to another researchers should also be aware of domain-specific features and characteristics which may mean modification and/or extension of the theoretical framework may be necessary to adequately account for the psychological processes in that domain.

**Summary**

In summary, the social motivation model was proposed as an alternative and additional explanation of the psychological processes underpinning adolescents' motivation. Several of the central hypotheses reflected in the model were supported. In sport, the partial mediation model adequately accounted for the relationships among the variables and for a moderate amount of variance in sport interest/enjoyment. In school, the full mediation model was supported. Overall, results of the empirical evaluation of the social motivation model suggest that affiliation and social recognition orientations and perceived belonging are important predictors of adolescents' interest and enjoyment of sport and school. Further, the social motivation model presents a viable theoretically grounded alternative and additional explanation of motivational processes in youth sport and school. Together these results suggest that social motivation variables are important contributors to motivational processes in sport and school. Further, that the proposed theoretically-based model of social motivation can guide researchers' efforts to reveal the role social motivational constructs play in the psychosocial outcomes of sport and school.

**Future directions: Extending the social motivation model**

The social motivation model represents an individual difference focus to social motivation at one point in time. To extend this model and thereby gain a richer picture of social motivation researchers might focus on four main areas. Specifically, the role of situational factors in social motivation, incorporating a developmental perspective, integrating the social motivation approach with current motivational approaches, and broadening the range of psychosocial consequences predicted by the model.

**Situational factors and social motivation**

Almost without exception the research presented in this paper focuses on individual difference factors for understanding motivation. That is, orientations, self-perceptions, and associated patterns of motivation and affect have been examined and discussed. This was a
deliberate attempt to separate individual difference factors from situational factors. Thereby, enabling researchers to examine the contribution of individual difference factors and situational factors to understanding social motivational processes in youth sport. Extending the social motivation model to incorporate situational factors will be an important step in the development of a social motivation approach to youth sport. Such an examination of the contribution of situational factors to social motivational processes might include identifying situational factors that moderate perceptions of belonging and determining the relationships that exist among social motivational orientations, perceived psychological climate, goal involvement, and children's and adolescents' thoughts, feelings and actions in sport.

Motivation researchers have begun to examine the influence of situational factors on children's and adolescents motivation and experiences in sport. This research has included examination of motivational climate (e.g., Goudas & Biddle, 1994; Kavussanu & Roberts, 1996; Newton & Duda, 1999; Roberts & Treasure, 1995; Walling, et al, 1993; White, 1996; 1998) and the influence of coaches, parents, and peers on competence motivation (e.g., Allen & Howe, 1998; Black & Weiss, 1992; Brustad, 1993a; Horn, 1985; Horn & Hasbrook, 1986; Horn et al, 1993; Horn & Harris, 1996; Duncan, 1993; Smith, 1999). These lines of research, however, maintain a physical ability emphasis. For example, the motivational climate construct has been defined as the situationally-specific goal structure and is operationalised as either task-involving or ego-involving (Duda & Whitehead, 1998). That is, both types of climate focus on how physical ability is construed in a given context. With regard to research on the influence of significant others again the focus has been on physical competence, specifically how significant others influence perceptions of physical competence and subsequent thoughts, feelings, and actions (see Brustad, 1993b, 1996 for reviews). This research provides researchers with theoretically based approaches for examining the contribution of situational factors. They have, however, yet to embrace a social motivation approach. Situational factors are just as likely to influence social goals and social perceptions as they are to influence physical ability constructs.

How individuals perceive that belonging is construed in a given sport context may influence how they feel they ought to behave in order to be accepted, respected, and included in the sporting group. Coaching behaviours that convey the importance of teamwork, cooperation, support for team mates, and that everyone is important to the team may lead participants to see that in order to belong to this group they need to display these behaviours. Therefore, they are likely to adopt prosocial and co-operative social situational goals. In contrast, coaching behaviours that convey the importance of being the best on the team, outperforming others to gain recognition, and being the star convey a message that the coach is not interested in players unless they are the best. This conveys a message that in order to belong to this group they need to adopt social goals to maximise social standing and
recognition from the coach. Not only will the examination of the influence of situational factors on social motivation further researchers understanding of social motivation and its consequences this research will also have implications for practitioners with regard to fostering positive sport experiences for children and adolescents.

A developmental perspective

The model of social motivation presented in this investigation provides a 'snapshot' in time of individuals social motivation. The model could be extended to incorporate a developmental perspective. As a theory to explain children's and adolescents' motivation sensitivity to developmental changes in social motivation would provide a valuable extension to the model (Duda, 1987). One way this perspective could be developed is through examination of the development of social motivational orientations.

The model of social motivation proposes that individuals hold certain social motivational orientations. Little discussion has been forwarded to propose how a tendency for one orientation over another develops. Discovering how social motivational orientations develop and what factors lead some individuals to be more affiliation oriented while others to be more validation oriented has implications for both researchers and practitioners. Researchers will gain a clearer understanding of psychosocial development through sport participation while practitioners will gain informed guidelines to facilitate positive growth and development in their charges.

Both Harter (1978) and Nicholls (1984) adopted developmental perspectives in their theories of motivation. Harter (1978) proposed that individuals' motivational orientation was in part "biologically built into the organism" (p. 52) and in part the result of experiences. She suggested that, in addition to any biological predisposition, the values of children's socialising agents such as parents and peers and the amount and type of reinforcement children receive determined individuals' predominant motivational orientation. Nicholls (1984) proposed that individuals' motivational orientation was in part linked to their cognitive maturation, specifically, individuals' ability to differentiate between task difficulty, effort, luck, and ability as the causes of outcomes and to adopt differentiated or undifferentiated concepts of ability. In addition to the role of cognitive maturation in the development of orientations, Nicholls also proposed that repeated exposure to environments that emphasise hard work, personal improvement and mastery is likely to lead to the development of a task orientation. In contrast, repeated exposure to an environment in which superiority over others is salient is likely to lead to the development of an ego orientation. This recognition of the importance of situational factors is similar to Harter's views about the development of motivational orientations. That is, much of individuals' orientation development lies in the hands of the significant others children and adolescents come into contact with throughout their lives.
With regard to the development of social motivational orientations the propositions of Harter (1978) and Nicholls (1984) provide a direction for research examining the development of social motivational orientations in sport worthy of exploration. Specifically, just as the pattern of reinforcement and values of significant others is proposed to shape children’s and adolescents’ physical achievement orientations, this pattern is also likely shape how individuals view their social connections within sport. For example, repeated exposure to environments where social status and recognition are valued and reinforced by salient others may lead individuals to develop a validation orientation. In contrast, repeated exposure to environments where mutual friendships and relationships are valued and reinforced may lead to the development of an affiliation orientation. In addition, possibly as a result of this socialisation experience, individuals may construe belonging in different ways. That is, some individuals may feel they belong when they are part of the ‘in’ crowd while others may feel the belong when they develop a close friendship. These different conceptions of belonging may form the basis of the individuals social motivational orientations.

**Integrating social and physical achievement motivation**

It was argued in this thesis that sport is a social context as well as a physical achievement context. That in order to better understand the unique contribution of social aspects of motivation in youth sport researchers would benefit from adopting a social motivation approach such as the one proposed here. As knowledge about social motivation develops, however, researchers and practitioners will benefit from integrating findings from social and physical achievement perspectives to develop a broader understanding of the psychological processes that underpin motivation. One way to achieve this integration is to develop an integrated model of motivation. The nature of such a model is discussed next.

In order to begin to incorporate and integrate the social motivation perspective proposed here with existing physical achievement approaches to motivation in sport a broadening of the central proposition of motivation research is needed. When applying theories such as competence motivation theory (Harter, 1978, 1981a), achievement goal theory (Nicholls, 1984; Nicholls & Duda, 1992), and to a lesser extent self-determination theory (Deci & Ryan, 1985a; Ryan & Deci, 2000; Vallerand, 1997) to contexts such as sport researchers have maintained the view that meaning in this context is related to physical achievement, that is the development and demonstration of physical ability. A broader view of motivation requires acknowledgement that sport is a social as well as a physical achievement domain and that sport participation may have multiple meanings to participants.

The central constructs of the integrated model are illustrated in Figure 21. In this model the energiser of physical achievement motivated behaviour is the psychological need for competence, specifically physical competence, while the need for belonging provides the
Figure 2.1. Proposed integrated model of motivation.
impetus for socially motivated behaviour. Sport provides an opportunity to develop and
demonstrate physical competence and belonging and therefore fulfil these fundamental human
needs. The perceptions of physical competence and belonging indicate the extent to which
individuals feel they are satisfying these needs. It is proposed that higher perceived physical
competence and belonging compared with lower self-perceptions would be predictive of more
adaptive motivational functioning, greater psychosocial development, and a more positive
experience. Such a relationship has been demonstrated in sport with regard to perceived
from this investigation demonstrates support for this proposition with regard to perceived
belonging.

These self-perceptions, however, are not independent of one another. Researchers
investigating peer acceptance and friendships in sport have provided evidence to suggest that
being physically competent, particularly for boys, leads to greater acceptance, social status, and
popularity (Buchanan, Blankenbaker, & Cotton, 1976; Chase & Dummer, 1992; Evans &
Roberts, 1987; Weiss & Duncan, 1992; Williams & White, 1983). Based on these findings it
could be argued that perceptions of physical competence lead to perceptions of belonging in
sport. The exact opposite view, however, has also been argued using an extension of
attachment theory (Bowlby, 1979). That is, a sense of secure attachments with significant
others (i.e., perceived belonging) may provide children with the confidence to face challenges
and develop their competence (Ryan, 1993; Ryan, et al, 1995). In this case perceived
belonging would lead to perceptions of physical competence.

In examining the direction of the relationship between perceived belonging and
perceived physical ability caution should be taken in extrapolating the findings from the peer
relationship research to the social and integrated motivation models. There are subtle
differences between the constructs in the peer relationship research and those in the social and
integrated models. Specifically, in the integrated model perception of physical ability rather
than actual physical ability and perceived belonging rather than popularity amongst peers are
the variables associated with motivational outcomes. Although actually being good at sports
may lead to popularity amongst peers its in not clear whether simply believing that one is good
at sports will have the same popularity consequences as actually being physically competent.
In fact the belief alone is not likely to be enough. Further, there is an important distinction, at
least from a research and psychosocial developmental perspective, between popularity and
belonging. Although many children and adolescents who are popular in sport will certainly
feel a sense of belonging in sport, feeling that one belongs does not automatically mean one is
popular nor is being popular a prerequisite for belonging. Being accepted for who one is and
respected by others are likely to lead to a more stable sense of belonging than a sense of
belonging based on popularity which can fluctuate with the whims of the ‘in’ crowd.
Therefore, to ensure accurate representation of the relationship and the appropriate implications are drawn from research careful attention should be paid to how these constructs are conceptualised and operationalised.

Central to social cognitive approaches to motivation and an integral aspect of the integrated model of motivation is a focus on understanding and maximising the quality of motivation rather than simply maximising the amount of motivation individuals possess. The concept of motivational orientations has been adopted to explain these qualitatively different forms of motivation which lead to patterns of cognition, affect, and behaviour that are more or less motivationally and developmentally adaptive. In sport, physical ability related motivational orientations such as task and ego goal orientations have received considerable attention and proved useful in furthering researchers understanding of the psychological processes that underpin sport motivation (see Duda, 1993; Duda & Whitehead, 1998 for a reviews). A task orientation denotes an emphasis on learning and personal development (Nicholls, 1984; Duda, 1992), and has been related to an adaptive and positive pattern of thoughts, feelings, and actions in youth sport (see Duda, 1993; Duda & Whitehead, 1998 for reviews). In contrast, an ego orientation denotes an emphasis on demonstrating to the self and others superior ability compared with others, avoiding demonstrating low ability, and a sense that one's self is 'on the line' in evaluative situations (Nicholls, 1984, Duda, 1992). This orientation has more often been associated with less adaptive and more negative patterns of cognition, affect, and behaviour (see Duda, 1993; Duda & Whitehead, 1998 for reviews). The affiliation and social validation orientations proposed in the social motivation model have strong parallels with these physical achievement goal orientations and these parallels make the integration of the two views of motivation plausible. Specifically, both task and affiliation orientations emphasise personal development either through physical ability development or interpersonal relationship development. The ego and social validation orientations are similar in that they both emphasise a desire to demonstrate or prove something to self and others and the belief that one's core self is being evaluated by others in achievement or social situations.

One central issue that will need to addressed in order to successfully integrate these approaches to motivation is to do with the mediator/moderator role of self-perceptions. In the social motivation model, perceived belonging is proposed to mediate the relationship between social motivational orientations and outcomes. In physical achievement motivation theories (e.g., Nicholls, 1984; 1989), however, perceived competence is a moderator of the relationship between motivational orientations and outcomes. Evidence from the present investigation suggests that perceived belonging is only a partial mediator of the relationship between affiliation orientation and interest in sport. Perhaps it may be better conceptualised as a moderator. Future research might examine the mediation hypothesis in the social motivation model to elaborate on the nature of the relationship and suggest modification if necessary.
Social motivation and understanding the youth sport experience

This investigation has demonstrated that the social motivation model can effectively explain and predict interest/enjoyment. This is, however, just one outcome of interest to youth sport researchers and practitioners. The research potential of adopting this social motivation approach is almost endless and in part will be determined by individual researchers' and practitioners' interests. The social cognitive approach to social motivation and the understanding of the youth sport experience adopted here is just one approach researchers might adopt but the importance of theory-based approaches to research can not be understated (Duda 1987; Gould, 1982; Landers, 1983). This framework provides an avenue for researchers to begin to systematically investigate social motivation in youth sport in a theoretically coherent manner.

Getting children and adolescents to participate in physical activities including sport has become a critical public health issue (DCMS 2000a, 2000b). Although children and adolescents are not typically interested in engaging in sport for health reasons, they do like being with their friends and feeling a part of something. Adopting a social motivation approach such as the one presented in this investigation may prove useful in furthering researchers' understanding or participation motivation and attrition. That is, given the strong relationship found in the present investigation between perceived belonging and sport interest/enjoyment, it seems reasonable to propose that those individuals who are higher in perceived belonging in sport would be less likely to withdraw from sport from one season to the next or even within a season. Further, individuals who have a high sense of belonging may be more likely to continue to participate even if they are not in the starting line up, an idea forward by Ewing (1981).

Perceived belonging may be an important explanatory factor in understanding sport attrition and efforts to enhance individuals sense of belonging may even combat low perceived ability or lack of playing time which might otherwise lead to withdrawal from sport. For example, Ryan et al (1995) suggested that secure attachments with significant others may provide individuals with the foundation from which to try out challenges necessary for competence development. If practitioners can foster the social meaning of sport and encourage children and adolescents to continue to participate then some of the health benefits of an active lifestyle and physical ability achievement may also be achieved.

Research in education has found relationships between social goal endorsement and patterns of school functioning. Specifically, social goals concerned with the development of social relations and social responsibility have been related to adaptive motivational patterns such as self-efficacy for academic work, help-seeking behaviour, and positive affect toward school. In contrast, goals concerned with social status have been related to less adaptive and more negative patterns such as avoiding seeking help and negative affect toward school
(Anderman, 1999; Anderman & Anderman, 1999; Erdley, et al, 1997; Goetz & Dweck, 1980; Patrick, et al, 1997; A. Ryan, et al, 1997). This research may provide researchers with useful directions for future studies to elaborate and test the tenets of the social motivation model in youth sport. For example, given the findings regarding social relationship goals, perceived school belonging, and academic self-efficacy, sport researchers might test a similar hypothesis for sport among affiliation orientation, perceived sport belonging and physical self-efficacy. In doing so, researchers will contribute to our understanding of the development of self-efficacy but also the association between self and motivation. In addition, because social recognition and status oriented individuals construe belonging as contingent upon gaining approval and popularity their sense of belonging may be more tenuous. Therefore, in social situations individuals higher in validation orientations might expected to be more likely to feel they are being evaluated and become more anxious compared with individuals who view sport in terms of affiliation. Such an examination would not only further our understanding of the psychological processes that underpin anxiety but may also provide practitioners with guidelines to reduce the anxiety youngsters may experience in sport.

Future research might also determine the circumstances when affiliation and recognition orientations lead to different psychosocial consequences. According to the social motivation model individuals oriented more toward recognition are likely to exhibit maladaptive patterns of thoughts, feelings, and actions particularly when they doubt their sense of belonging. Their sense of self is contingent upon reinforcing their social connections and their social connections are contingent upon being recognised for their achievements. This pattern of contingencies and strong association between belonging and self-worth may lead recognition oriented individuals to be more sensitive to changes, imagined or real, in their social connections. Baumeister and Leary (1995) proposed that a sense of belonging was characterised by regular contact and a perception that the interpersonal relationship has stability, affective concern, and is ongoing. Further, individuals should experience negative affect when relationships are broken, threatened, or refused. Therefore, social recognition oriented individuals may be more susceptible to the negative consequences of threats to belonging because their concept of belonging is more tenuous. They feel that developing or maintaining relationships with significant others is contingent upon gaining recognition for their achievements. This may not be under their control and therefore more tenuous. This is not to say that affiliation oriented individuals will not feel the negative affect associated with breaking or threatening social bonds. Affiliation oriented individuals, however, are less likely to perceive threat to their social connections because they do not see all social situations as tests of their relationships. They see them as opportunities for development and personal growth. Failure to form a particular desired relationship does not indicate rejection rather it is
just a setback, an indicator that the strategy employed was inappropriate. It is not an indictment of their self worth.

A Final Word

The model of social motivation proposed here and the research presented in this thesis extends the research on youth sport motivation in several ways. First, it recognises that sport may have multiple meanings for participants, specifically that individuals may attach social meaning to sport involvement. Participants recognise and seek out the opportunities sport provides for social interactions to develop and/or demonstrate social bonds. Second, the model provides a theoretically based framework for researchers to explore the unique contribution of social motivation to understanding children's and adolescents' sport experiences. The model not only describes what individuals are trying to do but also provides an explanation as to why they are doing what they are doing. It provides an explanation of the psychological processes that underpin individuals patterns of thoughts, feelings, and actions in sport. Third, this model has room for extension including examination of the role of situational factors, the potential to incorporate a developmental perspective and integrate with current motivation perspectives, and to explain a range of psychosocial consequences. Such extension will provide researchers and practitioners with more detailed understanding of the complex nature of youth sport motivation.

Few physical activities occur in isolation, when given the choice few individuals choose to participate alone, whether it on the tennis court against one opponent, in a physical education class with classmates, in an exercise class with other exercisers, or on the playing field with team mates and an opposing team, interacting with parents, teachers, a coach or friends, inherent in physical activities are social settings and social interaction. Sport is clearly a social context. Research has demonstrated that sport participants endorse social reasons for involvement and they are oriented toward the social aspects of sport. There is sufficient descriptive research supporting a social view of sport, however, in terms of theoretical approaches the narrow focus on physical competence and related perceptions and orientations may be limiting our understanding of the psychological processes central to sport motivation. Children's and adolescents' investment in sport is not solely about competence. Sport also has social meaning to them. It is hoped that the model presented here will provide researchers with a theoretically-based framework that can be utilised to more clearly understand the social side to motivation in youth sport. The knowledge gained from such investigations should help further our understanding of children's and adolescents' involvement and quality of experience in sport and assist in making sport a place children and adolescents want to return to again and again.
APPENDIX A: LETTER TO SCHOOLS AND INFORMED CONSENT FORM

26th November, 2000

Dear (Name of Head Teacher),

The purpose of this letter is to request your help in a research project being conducted by Ms Justine Allen, Professor Howard Hall of DeMontfort University and Dr. Paul Carpenter of University of East London. This project is designed to examine teenagers' motivation in school and sport. We are interested in understanding more about adolescents' experiences in sport and school and their attitudes towards involvement in these two contexts.

Participation in the project would involve pupils completing a questionnaire designed to assess aspects of motivation, perceptions of ability, and how well they fit in at school and when involved in sports activities. Completing the questionnaire will take approximately 15-20 minutes.

Your participation would be greatly appreciated, and most importantly we believe information gained from this study will help us better understand students' experiences and motivation at school and in sport. Ultimately this will help us to develop ways to facilitate positive experiences for a greater number of adolescents. At the completion of this project we would be happy to share the findings by providing a report to the school, if requested.

If you would be willing to allow your pupils to participate in this project please sign and date the enclosed informed consent form. Justine Allen at (01234) 793 416 or Professor Howard Hall at (01234) 793316 at DeMontfort University, Bedford would be happy to answer any questions you have on this project.

Thank you in advance for your co-operation and support in this project.

Sincerely,

Justine B. Allen (MA)
PhD Research Student
School of PE, Sport, and Leisure
Research study on motivation in sport and education

The purpose of this project is to gain a better understanding of adolescents' attitudes towards sport and school. Research in education and sport settings has indicated that children and teenagers have a variety of reasons for engaging in activities in sport and at school but little research has examined the impact of the social aspects such as their friendships and sense of "fitting in" on their motivation toward these activities.

If you decide to allow your pupils to participate in this project, they will be asked to complete a questionnaire designed to measure their opinions and experiences in sport and at school. It is hoped that the questionnaire can be administered at school in physical education classes you deem to be appropriate and convenient. The questionnaire will take 15-20 minutes to complete. This method will allow a large number of teenagers to express their views. Permission from parents will be required before pupils can participate and so we would like to send a letter home to the pupils' parents requesting that they give consent for their child's participation.

Insight gained from this research will help us better understand teenagers experiences at sport and school. Ultimately this information will help us develop strategies to enhance children and teenagers' experiences in sport and school. All teenagers who agree to participate will be reminded that their participation is voluntary and that there are no right or wrong answers. Further, their responses will be kept confidential, and their names will not be attached to the questionnaires.

If you have any questions about this project, please contact Justine Allen at (01234) 793416 or Howard Hall at (01234) 793316 at DeMontfort University, Bedford.

If you are willing to give permission for your pupils to participate in this project please sign and date this form below.

Head Teacher signature ___________________________ Date ___________________________

School Name ___________________________
APPENDIX B: LETTER TO PARENTS AND INFORMED
CONSENT FORM

Dear Parent or Guardian,

The head teacher of your child's school has given permission for us to conduct a research project examining teenagers' motivation in school and sport. We are interested in understanding more about pupils' experiences in sport and school and their attitudes towards involvement in these two areas. The purpose of this letter is to request your help in the project being conducted by members of the Faculty of Education and Sport Science at DeMontfort University.

Participation in the project would involve your son or daughter completing a questionnaire designed to assess his or her motivation towards school and sport, and provide views about his or her experiences in school and sport. Completing the questionnaire will take approximately 15-20 minutes.

Your consent and your child's participation would be greatly appreciated, and most importantly we believe information gained from this study will help us understand adolescents' experiences and motivation at school and in sport. Ultimately this will help us develop ways to facilitate positive experiences for a greater number of adolescents in these settings.

If you are willing to give your consent for your child to participate in this project please sign, date and tear off the informed consent form below and have your child return it to school. If you have any questions, please feel free to contact Justine Allen at (01234) 793 416 or Professor Howard Hall at (01234) 793 316 at DeMontfort University, Bedford

Thank you in advance for your co-operation and support in this project

Sincerely,

Justine B. Allen
Research Student, School of PE, Sport, and Leisure
DeMontfort University, 37 Lansdowne Road
Bedford, MK40 2BZ

Consent Form for the research study on motivation in education and sport

I understand the above information and am willing to give permission for my child to participate in this project.

Parent or Guardian's signature ___________________________ Date ___________________________

Child's Name ___________________________
Thoughts about School and Sport Project

Dear pupil,

We would like to request your participation in a research project that is being conducted by Ms Justine Allen, Professor Howard Hall of DeMontfort University and Dr. Paul Carpenter of University of East London. The project is investigating teenagers’ motivation in sport and school. We are interested in your experiences, attitudes toward, and opinions about sport and school. It is hoped that your answers will help us make sport and school more rewarding and enjoyable for a greater number of teenagers.

We would like you to read and answer the questions on the following pages. The questionnaire will take less than 20 minutes to complete. There are no right or wrong answers to any of these questions. We are interested in knowing how you feel about your involvement in sport and school, so your opinions are important to us. Your responses are completely anonymous so know one will know how you responded to each question.

If you are willing to help us with this project please sign your name on the line below and write the date. Then detach this page from the others, put it to one side so it can be collected, and begin to answer the questions. Your parents have already told us that they are happy for you to participate, however, your taking part in this project is completely voluntary. If you want to stop at any time, it’s okay. Just tell us. Also if you have any questions, raise your hand and we will come around to help you.

We greatly appreciate your assistance with this project. Thank you for your help.

I understand the above information and agree to participate in this investigation.

Name: _____________________________
Date: ___________________________
APPENDIX D: QUESTIONNAIRE
Thoughts about School and Sport

Thank you for agreeing to help us with our questions about what sport and school are like for teenagers. Please remember that we are interested in your opinions and experiences. There are no right or wrong answers. We are interested in what you think and feel about your time at school and in sports.

Tell us a little about yourself

Age: ______________  School year: __________  Male / Female (circle one)

1. What sports do you take part in the most often? AND How long have you been participating?

<table>
<thead>
<tr>
<th>Sport</th>
<th>Number of years participated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

☐ I have never played an organised sport before

Your Experiences in Sport

(If you have never played sports before think about when you have played sports in your PE lessons)

We are interested in knowing more about how you feel about participating in sports. Please think about your experiences in sport including the people who are involved in your sport such as the people you train with, compete against, socialise with, and your teammates. Below are some of the experiences that have made others feel really good about their sport involvement. Please read each statement and indicate the extent to which you agree or disagree with it by ticking the appropriate box to the right.

I feel things have gone well in my sport when........

<table>
<thead>
<tr>
<th>I feel things have gone well in my sport when........</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Others tell me I have performed well</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. I make some good friends on the team</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. I belong to the popular group in the team</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. My teammates and I have a laugh together</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. I am the centre of attention</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. I make new friends who I socialise with outside sport</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. I have fun with the others on my team</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. I am part of the 'in' crowd</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. Other kids think I'm really good at sport</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10. I receive recognition from others for my</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>accomplishments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Spending time with the other players is enjoyable</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>12. I become friends with some of the others in my sport</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>13. Others are impressed by my sporting ability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>14. I am one of the more popular players</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>15. Just hanging out with the others is fun</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
### How do you feel about being in your team or sport?
If you do not play on a team think about all the people who are involved in your sport such as the people you train with, compete with, and socialise with. Using the scale below, please tick the most appropriate response.

<table>
<thead>
<tr>
<th></th>
<th>Not at all true for me</th>
<th>Somewhat true for me</th>
<th>Completely true for me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I feel like a part of my team</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>2.</td>
<td>Other players in my team take my opinions seriously</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>3.</td>
<td>Sometimes I feel like I don't belong</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>4.</td>
<td>The coach respects me</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>5.</td>
<td>I am included in lots of the team activities</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>6.</td>
<td>I wish I were on a different team</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>7.</td>
<td>The coach is not interested in people like me</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>8.</td>
<td>I can really be myself on this team</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>9.</td>
<td>Other players here like me the way I am</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>10.</td>
<td>I feel very different from most of the others</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>11.</td>
<td>People in my team are friendly to me</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
</tbody>
</table>

### How do you feel about participating in your sport?
Using the scale below, please indicate the extent to which you agree or disagree with each of the following statements by ticking the appropriate box.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I usually have fun doing sport</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>2.</td>
<td>I usually enjoy sport</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3.</td>
<td>I usually find taking part in sport interesting</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>4.</td>
<td>When I take part in sport, I usually find that time flies</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

---

**Experiences at School**

Now we would like you to think about your experiences at school.
Experiences at School

Think about your experiences at school. We are interested in knowing more about the times when you have felt really good about school. Below are some of the experiences that have made others feel that things have gone well at school. **Read each statement and indicate the extent to which you agree or disagree with it by ticking the appropriate box to the right.**

### I feel things have gone well at school when......

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Others tell me I have done well</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. I make some good friends at school</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. I belong to the popular group in the school</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. My classmates and I have a laugh together</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. I am the centre attention</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. I make new friends who I socialise with outside school</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. I have fun with the others in my class</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. I am part of the 'in' crowd</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. Other kids think I'm really good at schoolwork</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10. I receive recognition from others for my accomplishments</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>11. Spending time with the other pupils is enjoyable</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>12. I become friends with some of the others in my class</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>13. Others are impressed by my academic ability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>14. I am one of the more popular students</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>15. Just hanging out with other kids is fun</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### How do you feel about being at your school? Using the scale below, please tick the most appropriate response.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all true for me</th>
<th>Somewhat true for me</th>
<th>Completely true for me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel like a part of my school</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Other students in this school take my opinions seriously</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Sometimes I feel like I don't belong</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. The teachers respect me</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. I am included in lots of activities at school</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. I wish I were at a different school</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. Teachers here are not interested in people like me</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. I can really be myself at this school</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. Other students here like me the way I am</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10. I feel very different from most of the other students</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>11. People at this school are friendly to me</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
**How do you feel about your school classes?** Using the scale below, please indicate the extent to which you agree or disagree with each of the following statements by ticking the appropriate box.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I usually have fun doing school work</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>2. I usually enjoy learning at school</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>3. I usually find my classes interesting</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>4. In my classes, I usually find that time flies</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
</tbody>
</table>

**THANK YOU**

For sharing your experiences in school and sport with us
REFERENCES


Anderman, L. H. (1999). Classroom goal orientation, school belonging and social goals as predictors of students' positive and negative affect following the transition to middle school. *Journal of Research and Development in Education, 32*(2), 89-103.


Ewing, M. E. (1981). Achievement orientations and sport behavior of males and females. University of Illinois at Urbana-Champaign, Champaign, IL.


