

**Motives for Participation and Their Relationship to Perceived
Competence**

By


Makepeace Charles
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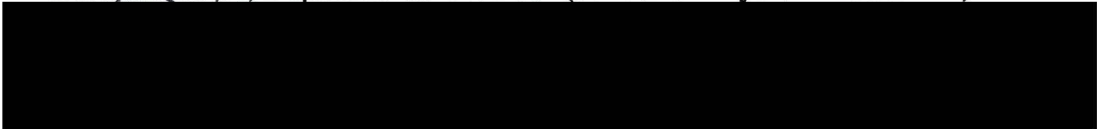
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Dr. R. Bell, Supervisor (School of Physical Education)


Dr. B.L. Howe, Departmental Member (School of Physical Education)


Dr. Dan Bachor, Outside Member (Educational Psychology & Leadership
Studies, Faculty of Education)


Dr. Margaret Robertson (Curriculum & Instruction, Faculty of Education)

Makepeace Charles, 2000

University of Victoria

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Supervisor: Dr. Frederick Bell

ABSTRACT

The purpose of this study was to a) examine the sport participation motives of adolescents and b) to compare these motives in adolescents of high, medium and low perceived competence; c) to compare the motives identified by adolescents aged 14-16 years and 17- 19 years; d) to compare the motives for participation of males and females. Data was collected from 194 male and female athletes involved in a variety of sports. Subjects were asked to complete the Self-Perception Profile for Adolescents (Harter, 1988) and the Participation Motivation Inventory (Gould, Feltz & Weiss, 1985). Using factor analysis five general motives for participation were revealed in the sample population. These motives were personal and physical development, social status/recognition, affiliation, energy release, and competition and excitement. Based on analyses of variance five findings resulted: a) high global perceived competence adolescents were more motivated by personal and physical development than their middle and low competence counterparts; b) high global perceived competence adolescents were least motivated by social status/recognition followed by the middle and low competence groups respectively; c) high social and physical perceived competence adolescents rated personal and physical development as a more significant motivator than their middle and low perceived competence counterparts; d) males are more motivated by social status/recognition than females; e) there were no differences in the participation motive preferences of adolescents aged 14-16yrs and 17-19yrs. These results are discussed in terms of their congruency with the literature and their impact on sport programs of the future.

Examiners:



Dr. R. Bell, Supervisor (School of Physical Education)



Dr. B.L. Howe, Departmental Member (School of Physical Education)



Dr. Dan Bachor, Outside Member (Educational Psychology and Leadership Studies, Faculty of Education)



Dr. Margaret Robertson (Curriculum & Instruction, Faculty of Education)

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DEDICATION

Mummy,

By god's grace you have raised me into the human being that I am and I thank you. You have given me the tools to succeed as a person and as an academic. I love you.

Trudy,

Thank you for your patience and perseverance with me. You have helped me to be the best I can be.

CHAPTER 1

Introduction

Motivation is a construct central to human action and is critically important when considering why youth engage or do not engage in sport. One theory which attempts to explain how and why people are motivated to be active is Harter's theory of competence motivation. Harter (1981) proposed that an adolescents' desire to engage in physical activity stemmed from beliefs about their own abilities. Harter termed these beliefs perceptions of competence. She further proposed that perceptions of competence are domain specific and direct an adolescent's behavior in cognitive, social and physical domains.

Research in which perceptions of physical competence has been examined has revealed that children, who are high in perceived physical competence, are more motivated to participate in physical activity than children who are low in perceived physical competence. The importance of this conclusion is diminished if the specific reasons why adolescents who are more motivated to engage in physical activity are not understood. Coaches and teachers who understand what motivates children to participate in sport will have a much clearer understanding of how to structure the physical activity environment so that participants receive the experiences they are seeking. This may increase the motivation of those individuals and promote continued involvement .

The notion of perceived competence mediating the desire to undertake or persist at a task was first proposed by White (1959). He viewed perceived

competence as a psychological construct that altered motivation. The concept of perceived competence has developed through the refinement of White's (1959) model of effectance motivation. Harter attempted to explain why individuals felt compelled to try to master their environment. Harter (1981) proposed that successful mastery attempts evaluated by important others increased a child's perceptions of competence and control and, in turn, his/her motivation. In contrast, failed mastery attempts combined with negative feedback from other important people resulted in decreased perceptions of competence and control and therefore decreased motivation (Harter, 1981).

Also of importance to perceived competence is the relationship between perceived competence and affect. Sport can be characterized by the emotions it elicits. Emotional involvement characterizes participation and psychological development in sport. The relationship between affective experiences, self-perceptions and motivation has been described in previous research (Wankel and Kreisel, 1985; Scanlan and Lethwaite, 1986). A child's emotions affect their level of satisfaction with performance and, in turn, their beliefs about their own abilities. "When young athletes enjoy their activity and experience the thrill of victory, however it is defined by the child, higher levels of perceived competence and participation motivation are inevitable" (Weiss, 1993, pg. 47).

Harter went on to operationalize the constructs she proposed by creating the Perceived Competence Scale for children to measure perceived global, physical, social and cognitive competence. The nature of Harter's theory in conjunction with

the empirical support for the constructs that it presents makes its application to physical activity both attractive and logical.

In order to motivate children and adolescents it is important to have a broad knowledge of the motives identified by adolescents as important reasons for their participation (Gould, 1987). Passer (1982), Alderman and Wood (1976), Gould, Feltz, Weiss and Petlichkoff (1981) and Gill, Gross and Huddleston (1980) have examined the relationship between motives and participation. These authors indicated that children participate in sport for a variety of reasons including achievement/status, team, skill, fun/excitement, fitness, energy release, important others and friends and that these reasons may vary with age or sport or both.

In order to properly design meaningful sport and physical activity programs, it is necessary to understand which motives are important for participation in sport and physical activity. Research in which subjects have been involved in different sports and participation status has revealed subtle differences in the general motives identified by these groups (Spink & Longhurst, 1987; Gill, Gross & Huddleston, 1983). Gill et al. (1983) and Spink and Longhurst (1987) examined the participation motives of children involved in a wide variety of sports and found that children in team sports were likely to identify affiliation as a means of participating, while those involved in individualized sports such as tennis are more likely to participate to improve their abilities or to win. This indicates that there may be sport and participant status specific participation motives which are important to different groups, although the examination of their relationships is limited and the samples studied have been small. As a result, there are equivocal conclusions that can be

made. There is a need to broaden the age range examined to fully represent adolescents and finally to determine whether there is support or not for the relationship between perceived competence and participation motivation. This study is unique in that it will address the differential participation motive preferences of individuals rated high, medium and low in perceived competence.

Statement of the Problem

There were four purposes for this study. The first was to examine the motives adolescents involved in high school basketball, volleyball, football, and cross-country running, identify as important reasons for participation. The second was to examine the general participation motive categories identified in the sample. The third was to determine whether adolescents rated high or low in perceived competence can be differentiated based on their participation motives. The fourth purpose was to determine whether younger and older adolescents differ in their preference for particular participation motives. This study is unique in that it will address the differential assignment of participation motives.

There was one primary and four secondary research questions. The primary research question was “Are there general participation motive categories which can be identified in adolescents participating in basketball, volleyball, football and cross country?” The four secondary research questions are given below:

- (a) What motives do adolescents identify as most important for their participation?
- (b) What differences exist in participation motivation for adolescents rated high, medium and low in perceived (social, physical, general) competence?

(c) What age-related differences exist for participation motive preferences in the age groups examined in this study (14-16 yrs.& 17-19 yrs)? If so, in what ways?

(d) What differences exist between males and females relative to their preference for particular participation motives? If so, how?

Operational Definitions

The following are the operational definitions for the dependent variables:

Effectance Motivation refers to an individual's intrinsic need to attempt to master their environment.(White, 1957)

Perceived physical competence is defined here as the specific measure of a child's ability feelings relative to athletic endeavors separate from social and cognitive skills (Harter, 1981).

Perceived social competence is defined here as the specific measure of a child's ability feelings relative to social situations and separate from athletic and cognitive abilities (Harter, 1981).

Global Perceived competence is defined here as the measure of a child's ability feelings relevant to global pursuits that do not relate specifically to athletic, social, or cognitive skills (Harter, 1981).

Motives for participation will be defined as the reasons why an adolescent participates in physical activity (Gill et al., 1983).

Delimitations

This study will be delimited to students participating in basketball, volleyball, football, and cross-country in nine schools in Scarborough, Ontario, Canada. The views and perceptions of the subjects in this study will only be measured once. This does not take into account the effect individual or team success will have on perceived competence or motives for participation.

Limitations

All of the subjects sampled here are athletes within the school system and may not accurately represent athletes who participate outside the school. Further, the perceptions of these athletes do not represent those of all adolescents involved in physical activity. In addition, subjects may not be randomly chosen because their participation is subject to School Board, principal, and coach approval.

CHAPTER II

Review of Literature

In this chapter a review of the literature relating to theories of motivation and motives for participation in sport is presented. In the first section, the common theories that explain the motivation to participate in sport and physical activity are examined. Motives for participation in sport are examined in the second section. The purpose of this review of literature is to analyze motivation theories and how they have been applied to sport to explain the relationship between self-esteem and motivation.

Prominent Motivation Theories

A variety of theories have been proposed to explain motivational orientation in youth sport. Motivation has been linked with self-esteem and as a result the two have been examined together in a variety of studies (e.g. Weiss, Bredemeier & Shewchuk, 1986; Feltz & Petlichkoff, 1983; Williams & Gill, 1995). An understanding of self-esteem will facilitate an understanding of its link to motivation. According to White (1959) and Deci (1975) motivation is the result of an individual's desire to master his/her environment. Coppersmith (1967) defined self-esteem as

"the evaluation which the individual makes and customarily maintains with regard to himself. It expresses an attitude of approval or disapproval and indicates the extent to which an individual believes himself or herself to be capable, significant, successful and worthy. In short, self-esteem is a personal judgement of worthiness that is expressed in the attitudes the individual conveys to others by verbal reports and other expressive behavior".(p.5).

Confusion exists in the literature due to the number of terms used to describe self-esteem. Self-concept, self-efficacy, and perceived competence, although not the same, have been used to describe an individual's beliefs about his/her own abilities.

Coppersmith's (1967) definition has been relevant to sport because it highlights the degree to which an individual believes in his or her own abilities, and that these beliefs are transmitted through verbal and non-verbal behaviors. Coppersmith also suggested that a child's self-esteem may be distinguished through his/her attributions for success, and through nonverbal behaviors, such as participation or avoidance of physical activity.

Three theories have consistently been used to describe motivation in various settings: Harter (1978), Bandura (1977), and Nicholls (1984). This section of the literature review will compare and contrast these theories as they relate to motivation in relation to performance in sport. Another theory, which has emerged more recently, is Marsh's (1990) Theory of Physical Self Description which will be mentioned within the context of Harter's theory of perceived competence. All of these theories propose that an individual high in self-esteem will be more likely to engage in and persist at a task.

Motivation in sport has emerged as an important factor in the explanation of participation trends in physical activity. What motivates individuals to engage in physical activity? This question has been asked in child and adolescent physical activity settings in an attempt to explain why they are motivated to participate or not participate.

Harter's Theory of Perceived Competence

Harter's (1978) theory of perceived competence has emerged as a refinement of White's (1959) theory of effectance motivation. Effectance motivation refers to a child's desire to impact his or her environment and was central to White's (1959) theory. Harter chose to expand on White's non-operationalized, global view of effectance motivation by operationalizing the constructs. She also included failure as well as success, and constructed a model that is developmental in nature. Harter's theory of perceived competence has been widely supported in youth sport research because it is developmental, domain specific, and has been proven relevant to sport (Weiss, 1987).

Harter proposes that an individual's self-esteem is domain specific. This means that a child's self-esteem or perceived competence can be described in reference to the global, cognitive, social, and physical domains. The theory is developmental in nature and allows the researcher to consider the domain specific self-esteem of youth of varying ages. She proposes an intricate framework of constructs in the development of self-esteem that have been supported by various investigators (Feltz & Petlichkoff, 1983; Klint & Weiss, 1987; Weiss, Bredemeier & Shewchuk, 1986; Roberts, Kleiber & Duda, 1981).

Harter suggests that each child has a drive to impact upon his/her environment that is called effectance motivation. When this drive results in successful practice that is optimally challenging and thought to be under the control of the child, an increase in perceived competence is the result. In this model the role of significant others and their impact on the child's attempts at mastery is considered. If mastery

attempts are rewarded by significant others an internal motivational orientation gradually evolves. As intrinsic motivation develops, eventually a child can engage in physical activity and define success and failure without others. The result is a child who feels as though he/she is competent and in control of the outcome of the activity. In other words, the child has a heightened sense of perceived competence (Harter, 1978, 1981, 1986). For example, an adolescent volleyball player who experiences success in practice or games and whose attempts are rewarded by a coach will understand the reasons for success or failure and will develop the means to determine success and failure in the future. Both of these notions, successful mastery attempts and reward from significant others, serve to increase the perceived competence of the child and in turn the child's desire to impact on his/her environment.

Failure also plays a role in the development of perceived competence. Harter (1978, 1981, 1986) proposed that when mastery attempts result in failure and trying is not rewarded by significant others, there is a possibility the child will be externally motivated. This motivational orientation creates the belief in a child that outcomes are not something he/she can control (Wiess, Bredemeier, Shewchuck, 1986; Klint & Weiss, 1987, Weiss, McAuley, Ebbeck, & Wiese, 1990). As a result, the child will desire the feedback of others to define success and failure. This lack of control over the outcome causes the child to have low perceived competence. A child executing an underhand pass in volleyball that is not rewarded by specific, positive feedback will be more likely not to feel as if he/she can determine what success is. As a result, the child will feel as if he/she has no control over successful or unsuccessful

outcomes in volleyball. This lack of control leads to a child who develops low perceived competence at the volleyball task and is not motivated to play.

Harter predicts a child's level of perceived competence from his/her motivation. She proposes that children and adolescents use practice and important people in their lives as sources of competence information. These sources of competence information form the basis of a child's beliefs about their own abilities. Harter's theory is of importance when examining the effect of perceived competence levels on motivation to participate in physical activity. Marsh (1986, 1990) has extended the domain specific physical perceived competence ideal developed by Harter, by proposing that an individual's description of his/her physical abilities are related to a number of physical dimensions such as body composition, flexibility, endurance and strength. Marsh also developed an accompanying rating scale called the physical self-description rating scale. Marsh (1986, 1990, 1994) proposes that an individual's feelings about his/her physical abilities can be divided into dimensions and that the importance an individual assigns to each of these areas will directly affect an individual's feelings about their general perceived physical abilities. Research (Marsh, 1996; Marsh, Hey, Hohnson & Perry, 1997; Marsh, Perry, Horsely & Roche, 1995) has shown equivocal results. Marsh proposed that physical self-concept varies with the importance individuals assign to various physical ability measures. However, no consistent differences in physical self-concept have been noted when importance ratings are assigned to specific predictors of physical ability and when they are not. Marsh's theory will require further independent investigation before it can be deemed a motivation theory with which to describe physical self-concept.

Nicholls' Theory of Achievement Motivation

Another theory that considers perceptions of competence to be important as mediators of performance and motivation is Nicholls' (1984) theory of achievement motivation. This theory has been used to understand the meaning children attach to competence and the relationship between meanings of competence and enjoyment of activities. According to Nicholls, feelings of competence or incompetence are the most important factors mediating motivation. It is Nicholls' (1984) contention that an individual is motivated to impact on his/her environment in a manner that displays competence. Feelings of competence are actively sought by participants when choosing the activities they will engage in and the level of task difficulty they will undertake while participating. Achievement motivation in Nicholls' framework can be thought of as the meaning an individual attaches to perceived competence. Nicholls discusses how the meaning individuals attach to competence, influence motivational orientation or goal orientation.

Nicholls (1984) developed two terms to explain the meaning of competence, intrinsic to the individual. They were labeled task and ego orientation. These terms are also referred to as goal orientations. Task orientation refers to an individual who believes that mastery of the task is the most important factor in the display of competence; ego orientation refers to an individual who believes competence is a function of ability relative to others or some set of external criteria (Nicholls, 1984).

Task orientated children will use self-referenced outcome information to determine competence. The focus for task oriented children is not the outcome relative to others but the outcome relative to a prior performance or to the amount of

effort expended to complete the task. Task oriented children have been shown to be more internally motivated, exhibit more enjoyment, and exhibit more effort towards a specific task (Dweck & Elliot, 1984; Diener & Dweck, 1978). Success is seen by these individuals to be the result of effort and mastery of the task. Failure is seen as something that can be altered simply by improving effort. Task oriented motivation and task choice are mediated by perceived competence. It has been hypothesized that task oriented children who are high in perceived competence will choose relatively difficult tasks, exhibit effort, and will persist at the chosen task in order to prove their abilities (Nicholls, 1989).

Ego oriented children will measure competence relative to external criteria (Nicholls, 1984). A child who is ego oriented is interested in the number of people they have beaten and their performance relative to their peers. Ego oriented children have been shown to invest less effort, persist less at a task, and be more externally motivated than their task oriented peers in a variety of situations (Diener & Dweck, 1978; Dweck & Elliott, 1984). Similar to task orientation, ego oriented cognitions and task choice are mediated by perceptions of competence. Ego oriented children who are high in perceived competence will choose relatively difficult tasks in order to prove that they are more skilled than their peers. Ego oriented children who are low in perceived competence will choose tasks that are relatively easy or very difficult in order to avoid displays of incompetence. By choosing tasks that are too difficult for everyone else, ego-oriented individuals who fail do not ascribe that failure to lack of ability. By choosing relatively easy tasks the ego oriented individual who is low in perceived competence is sure to be successful. Perceptions of competence are

therefore very important when explaining the type of activity in which task or ego oriented children will engage.

Also of importance in explaining choice of activities is the situation that characterizes the task. A situation where a coach or significant other emphasizes winning over effort expended changes the emphasis the participant will intrinsically place on effort or outcome. When a game or match is lost and the coach or significant other focuses feedback on the outcome rather than the effort expended by the participant, the child's internal task or ego orientation will be affected. The internal orientation of the individual acts in concert with the nature of the situation to determine goal orientation (Nicholls, 1989). The interaction of situation and factors intrinsic to the individual may cause the child to be more task or ego oriented. Nicholls (1989) developed the terms task involvement and ego involvement, to represent the characteristics of the situation to which a child or adolescent is presented. Task involvement is representative of a situation where skill-mastery, participation, and problem solving are emphasized. This type of environment will foster a task orientation in the child because evaluative cues are de-emphasized. In the ego involved situation the child feels he/she is being tested or measured against the performance of his/her peers. This type of situation fosters an ego-oriented child who will focus on displaying competence relative to others.

In Nicholls theory of achievement motivation, the importance of the meaning of perceived competence in relation to motivation is emphasized. He advances this claim by considering the orientation of the individual as well as the context of the situation in which the individual is placed. The situation and the individual each play

an important role in establishing the meaning attached to physical activity and in turn, the effect of that meaning on future decisions to participate, enjoy, and persist at a physical task. Recently, participation motivation research has begun to use Nicholls' theory to describe participation motivation in physical activity.

Bandura's Theory of Self-efficacy

Bandura's (1977) theory of self-efficacy was originally developed to explain psychopathology in snake phobics but has since been used to explain fearful and avoidant behavior in a number of settings, including the sport environment. More recently, Bandura (1997) situated self-efficacy within a theory of personal and collective agency that operates in concert with other sociocognitive factors in regulating human well-being and attainment. In this book, Bandura also addressed the major tenets of agency- the nature and structure of self-efficacy beliefs, their origins and effects, the processes through which such self-beliefs operate, and the modes by which they can be created and strengthened. In addition, Bandura reviewed a vast body of research on each of these aspects of agency in diverse applications of the theory. During the evolution of self- efficacy, it's tenets have been widely tested in varied disciplines and settings and have received support from a growing body of research from diverse fields. Self-efficacy beliefs have been found related to clinical problems such as phobias (Bandura, 1986), addiction & depression (Davis & Yates, 1982), social skills (Moe & Zeiss, 1982), and to achievement motivation (Bong, 1996), assertiveness (Lee, 1983), smoking behavior (Garcia, Schmitz, & Doerfler, 1990); pain control (Manning & Wright, 1983)and to health (O'Leary, 1985). Within the sport arena, self-efficacy levels have been found to impact on exercise adherence

(Biddle & Nigg; 2000); team cohesion (Kozub & McDonnell, 2000; Greenlees, Graydon & Maynard, 2000); coping with athletic disappointment (Smith, Brock, Lacon, 1999; Escarti & Guzman, 1999); and athletic performance (Barling & Abel, 1983; Moritz, Feltz, Fahrback & Mack, 2000).

Self-efficacy theory differs from the other two theories because it describes self-ability judgements in reference to execution of a specific task, rather than in reference to general motivation. Central to Bandura's theory is self-efficacy which is defined as "people's judgements of their capabilities to organize and execute courses of action required to attain designated types of performance" (Bandura, 1986, p. 391). These judgements are situation and task specific and serve to determine the task chosen, the effort that will be expended, and the persistence that will be shown in the face of failure. This review of Bandura's theory will focus on the three dimensions along which self-efficacy varies, the four sources of information which an individual uses to determine his/her own self-efficacy, and the empirical questions that have been asked in sport relative to Bandura's theory.

According to Bandura (1977), self-efficacy varies along three dimensions which are described as strength, magnitude, and generality. The strength of self-efficacy refers to its ability to remain at the same level in the face of failure. An individual high in self-efficacy strength will remain high in efficacy in the face of failure. An individual with weak self-efficacy will have those feelings of efficacy dissipate in the face of failure. Self-efficacy can also be affected by the levels of difficulty an individual feels comfortable with when completing a task. Self-efficacy magnitude refers to the level of difficulty an individual feels they are able to engage

in. Those high in self-efficacy magnitude will choose difficult tasks whereas those low in self-efficacy magnitude will choose easier tasks. Further, self-efficacy may differ in its application from one task to another, such as ability in soccer compared to baseball or football. Self-efficacy generality refers to the degree to which self-efficacy judgements for one task can be generalized to other tasks.

Self-efficacy can be altered by four sources which provide information to the individual about their abilities (a) performance accomplishments, (b) vicarious experience, (c) verbal persuasion, and (d) emotional arousal (Bandura, 1977). Performance accomplishments are an individual's successful or unsuccessful attempts at the task they are attempting to master . These performances are said to be the most powerful predictors of self-efficacy for the task (Bandura, 1977, 1986). Repeated, perceived success at a task will raise efficacy expectations, whereas repeated failures will likely lower such expectations. When performance of the task is complete it will only increase self-efficacy if success is attributed to something internal and if the performance accomplishment was executed under normal conditions (Bandura, 1977, 1986). In other words, when the individual feels responsible for successes that are performed under conditions that are normally associated with the task, the individual will believe they have the ability to complete the task.

A second source of information that affects self-efficacy is vicarious experience. Vicarious experience can be defined as the individual's experience watching others execute the task (Bandura, 1977, 1986). The observation of others successfully completing the task can cause the learner to believe that they too can

execute the task. This source of information, although not as effective as performance accomplishments, is powerful in its ability to affect self-efficacy if certain cognitive appraisal conditions are met. First, the person modeling appropriate performance must be at the same skill level as the vicarious learner. Second, the situation being modeled must match the appropriate conditions of the task as far as effort and clarity of the task are concerned.

The third source of information is verbal persuasion. This is information from an external source about task performance or outcome that can alter the self-efficacy of the performer (Bandura, 1977, 1986). The fact that this source of efficacy information is not based on experience weakens its ability to alter efficacy and thus it is not as powerful as either performance accomplishments or vicarious experience. Verbal persuasion which alters self-efficacy is subject to cognitive appraisal by the individual in two ways (a) the credibility of the person giving feedback must be established for the performer to consider this person a credible source of information about his/her own skills, and (b) the situation must be unambiguous so that the performer can understand the nature of what is being described to him/her.

The final source of information used to alter self-efficacy is emotional arousal. Emotional arousal is the perception of the psycho-physiological information the body experiences in the face of a challenging task (Bandura, 1977, 1986). Consider perspiration on the hands before a major race in track and field. This source of efficacy information may be perceived in one of two ways. First, perspiration may be perceived by the performer to be a sign of physiological readiness for the upcoming task. This will result in an increase in self-efficacy. Conversely, the performer may

perceive perspiration on the hands as a sign of nervousness and lack of preparation for the upcoming event. This may result in a decrease in self-efficacy. Perceptions of emotional arousal will therefore affect self-efficacy for the task being completed (Bandura, 1986).

Each of the four sources of efficacy information should not be thought of as acting independently. All four sources of information may act to decrease or increase the efficacy of the performer on a given task. This is expressed by Bandura (1986) when he states,

In forming their efficacy judgements, people have to deal not only with different configurations of efficacy-relevant information conveyed by a given modality, but they also have to weigh and integrate efficacy information from these diverse sources. The weights assigned to different types of efficacy information may vary across different domains of activity. There has been little research on how people process multidimensional information. However, there is every reason to believe that efficacy judgments are governed by some common judgmental processes (p. 409).

In summary, Bandura uses information sources to determine the self-efficacy of the individual for a particular task. Bandura's theory can be used to predict motivation for a specific task but it does not explain how competence is internalized and hence how further general motivation develops. Furthermore, Bandura's theory is task specific and should be used when explaining motivation for a particular task. This theory is very useful for the explanation of fearful and avoidant behavior in adults but it has been used sparingly for youth in the physical activity setting.

Differences and Similarities between the Models

The three models presented use different terms to describe motivation and behavior but are based on common ideology. Each of the theories used individual beliefs about personal abilities to explain motivation. Harter and Bandura described motivation and behavior in reference to levels of perceived physical ability. Nicholls hypothesized that meanings of competence as opposed to levels of competence can be used to describe motivation.

Different terms are prevalent in each theory to describe the major tenets. Harter uses the term perceived competence to describe an individual's beliefs about his/her own abilities. Within the framework of Harter's model, levels of perceived competence are affected by practicing a task and receiving feedback for that practice. In turn, perceived competence is said to directly affect motivation to engage in physical activity. Bandura used the term self-efficacy to describe an individual's beliefs about his/her own abilities to complete a task. As with Harter, Bandura suggested that the level of perceived self-efficacy was the most accurate predictor of performance and that successful performance accomplishments, appropriate modeling, verbal persuasion, and optimal arousal will increase an individual's beliefs that he/she can successfully perform a task. Nicholls used achievement motivation to describe an individual's beliefs about what competence means. For Nicholls, the meaning of competence affects whether an individual will engage in, and persist at physical activity. People who believe competence means persistence in the face of failure and mastery of a task are more likely to persist at a task. They will also be

more motivated than individuals who believe competence is a function of ability relative to others.

Also of importance in the comparison of these theories is the populations for which they were designed. The models developed by Harter and Nicholls were developed to explain motivation and causal attribution in children. Bandura's theory was originally developed to describe obsessive behavior and has since been used to describe task specific motivation. The population for which each of these theories was constructed directly affects the factors taken into consideration by the model. Harter and Nicholls have both proposed a domain specific, developmental theory which may be used to explain age-referenced differences in the factors affecting motivation in the cognitive, social and physical domains. This perspective is important because the development of motivated behavior is a process that may span a range of years and may be domain specific. Bandura, on the other hand, proposed a theory to explain fearful and avoidant behavior and therefore did not give consideration to age-related differences in children. Instead, it was more important for Bandura to describe the sources of information which may serve to increase the self-efficacy of the individual and alter fearful and avoidant behavior.

The effect of important others on motivation was also a salient factor considered in the theories proposed by Harter and Bandura. Bandura considered the effect of significant others such as coaches, parents, teachers, and peers on perceived ability. Modeling, vicarious experience and verbal persuasion are all information sources about self-efficacy which come from important others. Similarly, Harter referred to feedback from significant others as important for the creation of internally

motivated children. Nicholls focused on the context of the situation in which the individual was placed and its effect on the behavior of that individual. Nicholls believed that the situation interacted with the orientation of the child so that the child would define competence as self-referenced or ability-referenced.

The three theories have been applied to various psychological constructs used to explain why people participate in physical activity. Harter's theory has been used to distinguish how levels of perceived competence affect motivation. More specifically, research has focused on the relationship between levels of perceived competence and intrinsic motivation, perceived control, motives for participation, and accuracy of competence feelings (Klint & Weiss, 1987; Feltz & Petlichkoff, 1983; Ulrich, 1987). It has also been used to determine the sources of feedback children of different ages use to determine perceived competence (Horn & Hasbrook, 1986). Nicholls' theory of achievement motivation focuses on competence meanings. It has been used to determine the relationship between achievement motivation and success and failure outcomes, motivated behavior, and enjoyment of sport (Newton & Duda, 1993; Williams & Gill, 1995; Duda, Chi, Newton, Walling, & Catley, 1995). Bandura's theory uses self-efficacy levels to predict the performance of a specific task. Bandura's theory has been used to distinguish the relationship between self-efficacy and information sources used to establish self-efficacy, exercise behavior, and performance on a specific task (Desharnais, Bouillion & Godin, 1986; Feltz, 1982; Barling & Abel, 1983; Lee, 1983; Moritz, Feltz, Fahrback & Mack, 2000). The questions addressed by Bandura's theory describe performance on a task in adults as opposed to describing general motivation.

In conclusion, each of the theories is important in explaining motivation in its own manner. They do not necessarily compete with one another but are complimentary in their explanation of motivation and behavior. For this reason each theory is important in explaining meanings of competence, levels of perceived competence and self-efficacy for a specific task or in reference to motivation. Each theory uses competence beliefs to define an individual's motivation but in a different manner. Each is important from a research perspective. The common thread throughout the three theories is the hypothesis that individuals who believe they are good at physical activity will be more motivated to engage in it. Determining which theory to use depends on the nature of the question being asked.

Applications of Harter's Theory

If one is interested in the relationship between levels of perceived competence and other psychological variables then Harter's theory is the most useful. Harter's (1978) theory has been applied to sport in an attempt to explain how levels of perceived competence are linked to participation (Klint & Weiss, 1987; Feltz & Petchlikoff, 1983; Ulrich, 1987; Weiss & Duncan, 1992) and achievement related behaviors (Roberts *et al.*, 1981; Weiss, Bredemeier & Shewchuk, 1986; Weiss, McAuley, Ebbeck and Wiese, 1990; Weiss and Horn, 1990; Brustad & Weiss, 1987).

Harter's theory has been used to predict participation in sport. Klint and Weiss (1987) examined the relationship between levels of perceived competence and participation in male and female adolescents (N=106) involved in competitive gymnastics. They found that children high in perceived physical competence were motivated to participate because they wanted to develop their skills and feel

competent. A parallel study by Feltz and Petchlikoff (1983) examined perceived physical competence among male and female interscholastic athletes and dropouts (N=272). Results indicated that participants in school-based activities were significantly higher in perceived physical competence than the dropouts. They also found that males were higher in perceived competence than females.

Ulrich (1987) examined the relationship between physical competence, motor performance, and participation in male and female children ages 4 - 7yrs (N=250). She found that physical competence was not related to participation but that it was significantly related to motor performance. Ulrich (1987) proposed that the relationship between physical competence and perceived competence may not have been significant because other variables, such as fun may have been more important to participants as reasons for participation. Ulrich further explained that although perceived physical competence was not a correlate to participation, participants demonstrated higher skill and understanding of their motor competence compared to non-participants in their own grade level.

In an attempt to investigate the relationship between a child's perceived competence and acceptance by peers, Weiss and Duncan (1992) examined children from 8 to thirteen years of age enrolled in a summer sports camp (N=126). They found that perceived physical competence was strongly related to peer acceptance in sport. Specifically, children who exhibited higher levels of sport competence were characterized by higher peer acceptance and interpersonal success. Taken together these studies indicate that individuals who are high in perceived competence are more

likely to participate, continue participation, be more motor developed, and be more socially accepted by their peers.

Harter's model has also been used to examine the relationship between perceived competence and achievement related behaviors. Roberts *et al.* (1981) examined levels of perceived competence in male and female sport participants and non-participants (N=143). They found that subjects who participated in sport had higher levels of perceived competence and had higher expectations of success.

The link between perceived competence and participation motivation was explored by Weiss, Bredemeier and Shewchuk (1986). They examined boys and girls aged 8 to twelve years (N=155) and found that children who had higher perceived physical competence were more intrinsically motivated and had higher achievement scores than those low in perceived competence. The causal model examined by Weiss *et al.* (1986) also revealed that (a) higher levels of perceived competence encouraged the child to develop an internal sense of success or failure and (b) higher levels of perceived competence enhanced a child's preference to perform hard challenging work.

Weiss, McAuley, Ebbeck and Wiese (1990) examined the relationship between levels of perceived competence and reasons given for success and failure in male and female children involved in a summer sports camp (N=131). They found that children whose causal attributions were internal, stable, and controllable were generally higher in perceived physical competence and had higher expectancies of success than those low in perceived competence.

Accuracy of competence level judgements were also thought to affect motivated behavior. Weiss and Horn (1990) examined the accuracy of male and female children's' competence judgements and found that children who were accurate or over estimated their levels of competence were more intrinsically motivated and had less trait anxiety than their underestimating counterparts.

In summary, empirical research in sport on Harter's model has revealed that children high in perceived competence are more motivated to participate, are less anxious about participating, will attribute their successes to internal, stable and controllable factors, and will be more intrinsically motivated. These studies have also shown that the relationship between perceived competence and motivation may be different for girls and boys. The research has shown that perceived competence is an important factor in the explanation of motivation where physical activity is concerned. The empirical evidence supporting Harter's model and its description of perceived competence relative to levels, rather than meanings or a particular task, makes it useful for explaining the effect of levels of perceived competence on: participation, achievement related behaviors, and cognitive development in sport.

Motives for Participation

Physical education in recent years has become directed towards teaching youth to embrace physical activity as a part of their lifestyles. Therefore, it is important that physical educators design programs that meet the needs of youth so that further involvement in physical activity is promoted (Harter, 1981)). Coaches and physical educators must design programs that address the reasons why youth are

participating. These reasons, referred to as participation motives, may differ significantly from sport to sport and thus should be examined in both the general and specific sport contexts. Research in this area has taken both a descriptive and theoretical approach. Both are very important to the study of children and adolescents' involvement in sport.

There has been a variety of research which has examined the participation motive preferences of youth involved in sport. The descriptive nature of the research to date is the result of an effort to identify the motives of specific subgroups such as sport participants, non-participants, and recreational participants. This research has also been used to develop theories concerning sport-specific participation motive preferences (Weiss, 1993). By identifying why youth participate in sport, theories can be developed to aid in the planning of sport programs. Moreover, specific theories could address the needs of specific sub-groups to make program planning easier and more efficient.

The participation motives included in the research to date were initially identified by Passer (1982). Researchers have examined the participant motives of hockey players (Alderman & Wood, 1976), swimmers (Gould, Feltz, Weiss & Petlichkoff, 1981), as well as male and female athletes from multiple sports (Gill, Gross & Huddleston, 1980). Passer (1982) surmised that children participate in sport for six reasons. The first of these reasons is affiliation, which refers to the team atmosphere and friendship associated with participation in physical activity. The second is skill development, which refers to a child's, or adolescent's need to be good at something or to improve their skills. Third is excitement which is characterized by

the fun and exciting opportunities that new and different sporting challenges may provide for adolescents. Fourth is success and status which refers to an adolescent's need to win and be recognized for successful outcomes. Fitness, the fifth motive, explains an adolescent's need to exercise and stay in shape. The sixth motive, energy release, refers to getting rid of tension. Passer (1982) also concluded that other reasons such as power, aggression, important others, and fun are intermittently cited by youth as contributing to their decision to participate (Passer, 1982).

Gill, Gross and Huddleston (1983) examined the participation motives of boys and girls involved in a summer sports school. This study added to the understanding of youth participation motives by operationalizing thirty-two specific participation motives. There were two purposes for this study (a) to describe the reasons children participate in sport, and (b) to develop a standard measure of participation in youth sports. Subjects for this study were boys aged 9-18years and girls aged 8-18years (N=1138). A thirty- item questionnaire was used to assess the participation motives of the sample. Factor analysis results produced eight specific participant motive factors. They were (a) achievement/ status, (b) fun, (c) learn new skills, (d) others, (e) physical fitness, (f) friends, (g) team, and (h) energy release.

In order to determine the importance of the 30 motive items, mean importance ratings were calculated for the combined sample and for boys and girls separately. For the combined sample the five most important motives were; (a) improve skill, (b) fun, (c) learn new skills, (d) challenge, and (e) physical fitness. Boys and girls both rated skill development as the primary motivator for involvement in sport. Girls rated fun as second in importance followed by learning new skills, being physically fit, and

challenge. Boys rated challenge as second in importance, followed by competition, fun, and learning new skills. To examine gender differences a discriminant function analysis was done. Gender differences accounted for 23% of the variance in the achievement/status factor. Boys rated to win, feel important, be popular, gain status, do something I'm good at, and rewards as more important than girls did. The eight factors identified by this study represent an important initial step in the identification of general participation motives by gender which could be used to create meaningful sport programs. This study is noteworthy because a large sample size was used from a variety of sports. In addition, this study also led to the development of the Sport Motivation Questionnaire which has been widely used to assess the participation motives of youth.

The participation motive preferences of youth of different ages has been examined in order to determine whether various factors motivate children and adolescents of different ages. An important developmental study which examined the participation motives of boys involved in a variety of sports was undertaken by Wankel and Kreisel (1985). There were two purposes for this study (a) to examine the sources of enjoyment identified by a large representative sample of children, and (b) to examine the effect of sport and age on sources of enjoyment. Subjects in this study were boys aged 7 - 14 years (N=822) involved in baseball, soccer or hockey. The Minor Sport Enjoyment Inventory was used to investigate sources of enjoyment in the sample. Results revealed that boys rated skill improvement, competition, status, and excitement as the primary factors influencing enjoyment of physical activity. Age group comparisons revealed no differences among boys for skill

improvement and status. The importance of excitement as a predictor of enjoyment decreased with age. This study is important because it examined why children enjoy participating in sport. This question reveals a slightly different type of information about why children participate when compared with prior participation motive studies.

Sport is an important part of the physical and intellectual maturation of youth according to the research presented here. A child's reasons for participating in sport are therefore important worldwide. It may be that the sport preferences of youth in one country differ significantly from those of youth in another country due to cultural differences. Therefore it is important to complete studies on participation motivation for youth from various cultural backgrounds. Studies done in Australia and Italy have revealed that the participation motive preferences of youth in other countries are similar to those of North American youth. For example, Watkin and Youngen (1988) compared the participation motive preferences of grade ten Australian and American youth. Subjects for this study were Australian (N=1353), and American (N=591) male and female adolescents. A 20-item questionnaire previously developed by Watkin was used to assess participation motives. To determine general participation motive categories a factor analysis was undertaken for both the Australian and American samples separately. Four factors were revealed for both the American and Australian samples. For both samples these factors were called success and status/excitement, personal development, diversion, and aesthetics. Similarities between the factor analysis results for the two samples indicates that the participation

motive preferences of youth in Australia and American may be similar at this age level.

In a similar study, Spink and Longhurst (1987) examined the motive preferences of Australian youth involved in a number of sports. There were three purposes of this study (a) to examine the participation motives of Australian children, (b) to compare the participation motives of Australian children to those of North American children, and (c) to initiate research into the importance of sport differences in participation motivation. Subjects in this study were boys aged 8 - 17 years and girls aged 8 - 18 years (N=404) involved in a variety of sports. A modified version of the Michigan Swimming Questionnaire developed by Gould (1982) was used to assess participation motives. This modified version contained 27-items rated on a five-point likert system. The most important reasons identified by the combined sample were to improve skills, to be physically fit, to compete, to learn new skills, and challenge. Boys rated improve skills as the most important motive followed by compete, challenge, and learn new skills. Girls rated improve skills as the most important motive for participation followed by compete, learn new skills, physically fit, and challenge. A factor analysis was conducted to examine general participation motive categories. Four factors were revealed. These were named achievement and team, situation, status, and fitness. The sample was divided into three age groups to examine age differences. Younger children rated get rid of energy, fun, get out of the house, and something to do as more important motives for participation than the two older groups of children. The young and middle aged groups rated, make new friends, be with friends, excitement, and action as more important motives for participation

than the oldest group of children. The participation motive preferences of children in specific sports revealed that participants in little athletics, netball, cricket and Australian rules rated action as a more important motive for participation than children involved in swimming. Children involved in little athletics, netball, and cricket rated fun, and be with friends as more important motives for participation than did swimmers. Little athletics and netball participants rated excitement as a more important motive for participation than swimmers. The results of this study support the findings of Gill et al. (1983) and more generally the research on the participation motive preferences of North American youth (e.g. Klint, 1986; Gould et al., 1982; Gould et al., 1985). Some differences did exist between the two samples. Interestingly, situation emerged as a significant factor accounting for 17% of the variance in the sample (Spink & Longhurst, 1987), whereas in the North American context (Gould et al. 1985; Gould et al. 1982) this motive was not identified as important.

Buonamano and Mussino (1995) examined the motive preferences of Italian youth involved in a variety of sports and compared these motives to youth in North America. Boys and girls from 8 to 19 (N=2589) involved in a variety of sports served as subjects for this study. A modified version of the Participation Motivation Inventory by Klint and Weiss (1987) was used to measure motives for participation. An open-ended questionnaire was also used to assess motives for participation. This gave subjects the opportunity to list motives that may not have been covered by the participation motivation inventory. Factor analysis results produced six factors which differed for boys and girls. These factors accounted for 55% of the variance. For

boys the six factors were success/status, fitness/skill, extrinsic rewards, team, friendship/fun, and energy release. For girls the skill dimension was divided into fitness/skill and extrinsic rewards/skill. The other factors identified by girls were success/status, team, friendship/fun, and energy release. Frequency analysis of the open-ended questionnaire data revealed five major categories (a) enjoyment (b) physical motives, (c) social motives, (d) competitive motives, and (e) skill. Frequency analysis revealed no gender differences for specific motives in the sample. Age group comparisons revealed that children up to 11 years of age found fun to be more important than the 12-14 and 15 - 18 year old group. Physical motives were found to be more important in the oldest age group. In general, the importance of competitive motives decreased with age. Italian youth rated enjoyment, health, affiliation, skill development, competition, improvement of skills, and status as important reasons for participation when given the opportunity to respond in an open-ended interview. These particular motives differ in a minor way from those identified by Gill et al. (1983), Gould et al (1985) and Klint (1986). Specifically, energy release was not a factor present in the open-ended Italian sample. In general participation motive preferences of youth from varying cultures appear to be somewhat similar .

The research to date has not been consistent in identifying developmental participation motivation patterns for youth involved in physical activity. Further, a consistent pattern of participation motives has not emerged that distinguishes males and females. This information is important for the development of age and gender appropriate programs and suggests that further research is required that will reveal consistent participation motives that are age and gender appropriate

Of particular importance for the amateur coach is sport specific participation motivation. The needs of youth may change from sport to sport and thus so should individual sport programs to fulfill those changing needs. Weiss (1993) concluded that the motive preferences of youth are multidimensional in that they may be related to family, friends, or situation, and they may differ from sport to sport. This creates a need for research which examines the participation motive preferences of youth involved in specific sports. Sport-specific studies have been completed for gymnasts (Klint & Weiss, 1986), competitive swimmers (Gould, Feltz, Weiss & Petlichkoff, 1982; Gould, Feltz & Weiss, 1985; Brodtkin & Weiss, 1990), elite figure skaters (Scanlan, Stein & Ravizza, 1989), wrestlers (Scanlan & Lethwaite, 1986), and elite speed skaters (Bakker, Koning, Schenau & Groot, 1993).

One of the first participation motive studies using the Sport Motivation Questionnaire developed by Gill et al. (1983) was Klint and Weiss (1986). They examined the participation and attrition motives of current and former competitive male and female gymnasts, as well as those of recreational gymnasts (N=106). Ages ranged from seven to twenty-five. A modified version of the Participation Motivation Scale used by Gould, Feltz and Weiss (1985) was used to assess participation motives. Interviews and a rating scale developed by the authors were used to assess the participation motives of the sample. Factor analysis results revealed seven factors which accounted for 93.4% of the variance in participation. These factors were competition, action, fitness, team atmosphere, situation, social recognition, and challenge. Mean importance ratings revealed that (a) current competitive gymnasts rated competence, fitness, and challenge as important motives

for their participation, (b) recreational gymnasts identified competence, fitness, fun, and situation as important motives for their participation, and (c) former competitive gymnasts identified competence, action, challenge and fun as important motives that affected their decision to participate. These findings demonstrate that the decision to participate or stop participating is affected by motives such competence, fitness, and challenge and that level of competition may also affect reasons for participation. Discriminant function analysis was conducted to determine if the three groups could be differentiated using participation motives as the distinguishing criteria. Results revealed two factor solutions that differentiated current, former, and recreational gymnasts. The motives contributing most to the first function were action, fitness, team atmosphere, improve skills, and parents want me to. The second function discriminated the groups based on aspects of competition, situational aspects, and release of frustration. This study supported the findings of both Passer (1982) and Gill et al. (1983). Of the six participation reasons proposed by Passer (1982) five, with the exception of energy release, were found to be important motives for participation in sport by Klint and Weiss (1986). There were also five common motives associated with both Gill et al. (1983) and Klint and Weiss (1986). These were team atmosphere, fitness, situational, skill improvement, and success/achievement. However, according to Klint and Weiss (1986) the success/achievement dimension described by Gill et al. (1983) represented a variety of motivation factors which differed from those of Klint and Weiss (1986). Klint and Weiss (1986) indicated that the success/achievement dimension in their study was indicative of social recognition, challenge, and competition. The authors indicated

that although similar participation motives were revealed, variation in the structure of the motives identified in individual studies may differ. This study is noteworthy because it supported prior participation motivation research indicating that there may be some commonality in the participation motives identified by youth involved in specific sports and those involved in a variety of sports. In addition, this study showed some variation in the structure of the motives identified by youth in specific sports. An example of this difference is the difference attached to success and achievement by youth in the Klint and Weiss and Gill et al. (1983) studies.

Participation motive preferences have been examined in competitive swimmers. Gould, Feltz, Weiss and Petlichkoff (1982) examined competitive swimmers eight to 19 years of age (N=50). Factor analysis results revealed the same eight factors as Gill et al. (1983) with subjects identifying fun, skill improvement, team atmosphere, and challenge as important reasons for participating. Females identified fitness, friendship, something to do, and fun as more important participation motives than males. Subjects were grouped into eight-11, 12-14, and 15-19 year old age categories to examine age-related differences. Younger students identified achievement-status, travel, parents or friends, something to do, like the coach, and like to use the equipment as more important motives for participation than older swimmers (Gould et al., 1982). No other developmental differences were identified.

In similar investigations, Gould, Feltz and Weiss (1985) and Brodtkin and Weiss (1990) examined the participation motive preferences of competitive and recreational swimmers. Both Brodtkin and Weiss (1990) and Gould et al. (1983)

examined the participation motive preferences using a modified version of the Sport Motivation questionnaire specific to competitive swimming. They examined the participation motives of school team swimmers (N=365) and found that competitive swimmers participation motives could be grouped into seven categories. These seven factors were identical to those of Gill et al. (1983) with the exception of the significant other's dimension. This congruity among these two studies may indicate that there is a common set of motives which may be apparent predictors of participation in certain groups of sports.

In order to examine the developmental nature of participation motives relevant to the sport of swimming Brodtkin and Weiss (1990) examined the participation motive preferences of recreational swimmers involved in a YMCA swimming program. Subjects for this study were 100 male and females from the ages of 6-74years. Subjects were divided into six age groups as follows: younger children (6-9yrs), older children (10-14yrs), high school/college age (15-22yrs), young adult (23-39yrs), middle adult (40-59yrs), and older adult (60-74yrs). A modified version of the Michigan Swimming Questionnaire (Gould, Feltz & Weiss, 1985) was used to assess participation motives. Factor analysis was performed to examine general motive categories for the sample. Seven factors were revealed which accounted for 71% of the variance. These factors were labeled characteristics of competitive swimming, health/fitness, social status, affiliation, energy release, significant others, and fun. The motives identified in this study are similar to those identified in studies by Gill et al. (1983) indicating that there may be a common set of motives upon which children rely to determine whether they want to participate. To further examine participation

motives age related differences in participation motives were analyzed. Mean importance ratings were calculated to determine which motives were most important to the sample. Results revealed that the young children rated being on a team and health/fitness as the most important reasons for participation. Older children identified health/fitness, skill development, and having fun as important motives for participation. Health/fitness, skill development, fun, challenge, and release of frustration were rated as important motives for participation by high school/ college aged individuals. Health/fitness, fun, skill improvement, and challenge were identified as important reasons for participation by young adults. Middle-aged adults identified health/fitness, fun, frustration release, being with friends, and challenge as important motives for participation. Older adults identified health/fitness, fun, and friends as important reasons for participation. All three groups identified the categories of: I want to improve my health, I want to stay in shape, and I want to get in shape or get stronger, among the top ten motives for participation. I like to have fun, I like to be physically active, and I like to exercise, were also ranked among the top ten motives for participation by all groups except the younger children. I like to improve skills was ranked among the top ten motives by older children, high school/college age, and younger adults. I want to be with my friends, was ranked among the top ten motives by middle and older adults. The young and older children ranked like the coaches as a top ten motivator for participation. Five items related to team aspects were identified by young children but no other group as important motives for their participation. Discriminant function analysis revealed that the groups could be differentiated based on two significant functions. The first function

differentiated groups based on characteristics of competitive swimming and social status. The second function distinguished groups based on health/fitness, fun, and significant others.

Research has been conducted to determine the physical activity motives of elite figure skaters. Scanlan, Stein and Ravizza (1989) examined the sources of enjoyment of 26 former elite figure skaters. The subjects in this study had all competed in a National championship during their careers and were coaching figure skating at the time of the study. Interviews and inductive reasoning were used to assess sources of enjoyment. During the interview the subjects were first asked to describe sources of enjoyment relative to the entire context of skating. Subjects were then asked to describe sources of enjoyment relative to competitive sport. They were then read a definition of enjoyment to standardize its meaning. Inductive reasoning was used to group sources of enjoyment into themes. The analysis of interview data revealed five enjoyment themes. These themes were named social and life opportunities, perceived competence, social recognition of competence, the act of skating, and special cases which was used to group unclustered themes. Frequency analysis results revealed that skaters at various levels identified similar diverse sources of enjoyment. Senior and Olympic level athletes identified performance achievement, performance recognition, a sense of specialness, and self-expression more frequently than the novice, junior and senior-non-Olympic groups. The methodology used in this study gave subjects the opportunity to identify diverse sources of enjoyment which may or may not have appeared as part of a psychometric test.

Bakker et al. (1993) attempted to replicate the findings of Scanlan et al. (1989) using thirty two adolescent, elite level speed skaters. An open-ended interview format was used to assess participation motives. Responses were then grouped under the five categories identified by Scanlan et al. (1989). They concluded that perceived competence was the most important incentive for participation followed by social and life opportunities, and the act of skating. These results supported findings of Scanlan et al. (1989). The similarity of the motives identified for elite speed skaters and figure skaters indicates that the youth in the two sports may share very similar reasons for participating in skating.

Another sport-specific study was completed by Scanlan and Lethwaite (1986). They investigated reasons for sport enjoyment in male high school wrestlers aged 9 to 14 (N=76). A questionnaire was developed to assess age, interpersonal factors, perceptions of coach and adult satisfaction with performance, and enjoyment. Perceived wrestling ability was assessed by the question, how good a wrestler do you think you are compared to other wrestlers who are your age and who have wrestled as long as you? This question was rated on a 5-point likert system. Sport enjoyment was assessed using the following two questions (a) how much fun did you have wrestling this season and (b) how much do you like to wrestle? Five adult factors that were pre-determined through previous research (Scanlan, 1984) were also measured with the questionnaire: (a) negative adult affective reactions, (b) positive adult involvement and interactions, (c) negative adult evaluations and interactions, (d) adult satisfaction with season performance, and (e) negative maternal interactions. Scanlan and Lethwaite (1986) found that age, perceived ability, adult satisfaction

with season's performance, negative maternal interactions and positive adult interactions were significant predictors of enjoyment. Greater enjoyment was experienced by (a) boys who felt their parents were satisfied with their wrestling performance over the season, (b) boys who perceived less pressure and negative interactions with their mothers, and (c) Boys who experienced positive perceptions and interactions with parents. This study by Scanlan and Lethwaite examines an important part of the participation motive question, namely the effect that parents have on a child or an adolescent's enjoyment of sport.

Recently, the literature has moved away from Harter's Theory of Perceived Competence as a means of understanding children's motivations for participation. Nichol's goal theory has become a popular means of understanding why children participate. This recent shift to Nichol's theory stems from its ability to characterize the participant as well as the context in which sport takes place. (Ryska & Yin, 1999; Seifriz, Duda & Chi, 1992; McIntyre & Roggenbuck, 1998; Boyd & Yin, 1996).

In summary, certain conclusions can be drawn from the previous review. First, youth consistently identify more than one reason for participation in sport. Although there is some variation in the motives cited from sport to sport and from country to country, summary results from the research in sport participation motivation indicate that children participate to improve skills, be with friends, have fun, become physically fit, to experience success, and because they like the challenge and competition. In accordance, sport programs for youth should be designed with these multiple objectives in mind. Second, the research examined here has not identified any systematic age or gender differences that would indicate that specific

participation motives apply to males more than females or vice-versa. Third, the participation motives of youth in Italy and Australia are similar to those of North American youth, with some minor differences. These differences should be accounted for when assessing sport programs on an international level. Fifth, much research has been done examining the motives of children and youth who are 12 years and younger. However the adolescent years (13-19 years) are of particular importance in the transition to adult sport participation and there is room for further research in this area. Fourth, the sport specific motives of youth involved in swimming and gymnastics seem to be similar to those of youth involved in a variety of sports. This may indicate that the participation motives of competitive swimmers are similar to those of youth involved in a variety of sports. The methodology used in the studies that have been completed on competitive swimming may indicate a bias towards particular participation motives.

In using participation motives to design sport programs an accurate assessment of the needs of children better serves the sport programmer to design purposeful programs. Sports administrators and coaches should design programs and place value on the reasons why children participate. Purposeful programs will increase the interest and enjoyment of youth engaged in sport. With this critical purpose dependent on participation motives it is appropriate to conclude that the reasons youth give for participating, play an important role in the practical application of sport to everyday life. Limited research involving adolescent aged children participating in sport programs has been conducted and with conflicting results. It is the role of the physical educator to create programs that are relevant to the needs of

children and adolescents. This relevancy will promote continued involvement, and the incorporation of physical activity as part of everyday life.

CHAPTER III

Method

Subjects

The subjects in this study were 194 volunteer male and female athletes involved in interscholastic basketball, football, cross-country, and volleyball. They ranged in age from 14 to 19 years and attended a variety of schools in a residential community in Scarborough, Ontario, Canada (Table 1).

Table 1

Number of Subjects by Sport, Age and Gender

<u>Sport</u>	<u>Age</u>			
	14-16yrs.		17-19yrs.	
<u>Sport</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
Basketball	15	24	26	7
Football	25	5	30	-
Cross-Country	7	5	1	1
Volleyball	26	20	2	5

The 14-16 year old participants were involved in the junior athletic program while the 17- 19 year age group was involved in the senior athletic program. Subjects were asked to commit one hour of their time to complete the questionnaires required in this study. The subjects were recruited through information sessions, which occurred during team practice. Involvement in this research study was promoted as a team activity. Written information was sent home with interested students to obtain informed consent from a parent/guardian (Appendix A).

Procedure

Approval for this study was secured through the submission of a proposal to the Research on Education Advisory Council of the Scarborough Board of Education. Once permission was secured from the School Board, individual principals and coaches were approached through a written letter (Appendix B) for their approval. The details of the study were discussed with participants to ensure that they understood its requirements. Subjects completed the Self-Perception Profile for Adolescents and the Participation Motivation Questionnaire during the competitive season. The adolescents assessed by this study were asked to work individually and completed the questionnaires in accordance with the instructions given by the researcher. The subjects completed the questionnaire in a quiet classroom so that they would not be disturbed. At the time the questionnaire was administered, the coach was asked to leave the room and the purpose of the study was described to the subjects. Examples of the instructions given to subjects are listed in Appendix C. Subjects were instructed that their participation was voluntary and that there was no penalty, academic or otherwise, for withdrawing from the study. Following their instructions subjects were asked to sign the student informed consent forms (Appendix D) and proceed with completing the questionnaires.

Measures

There were two major variables assessed in this study. Perceived competence was measured using Harter's Self-Perception Profile for Adolescents. This scale consists of 45-items assessing nine perceived competence dimensions scored on

ordinal scales. The scales are independent of one another and the subscale reliabilities have been shown to be between 0.70 and, 0.80 (Roberts *et al.*, 1981). The three subscales used in this study were the athletic, social, and global perceived competence subscales. The athletic competence subscale was used to compute perceived physical competence scores. The social competence subscale was used to compute perceived social competence scores. The global perceived competence scale was used to measure perceived global competence. Questions assessing the child's perceptions of physical competence emphasized ability in athletics. Items were presented in a structured alternative format to reduce social desirability. For example, children were asked to choose between two statements and then answer whether the statement was "sort of" or "really" true for them. Responses were scored on a 4-point scale with a 4 representing a higher degree of perceived competence. In order to determine a rating of perceived competence an individual's total score was divided by the number of items contained in the scale.

The second variable was participation motivation. It was measured using the Participation Motivation Questionnaire. The original items included in the questionnaire were developed from a review of the youth sport literature and two validation studies. In the first validation study, participants (N=1500) involved in youth sport were asked to identify reasons for participating and the objectives of youth sport programs. A 37-item questionnaire was produced on the basis of these open-ended results. This questionnaire was administered to boys (N=27) and girls (N=24) aged 12-16 years participating in a summer sports school. Thirty items were retained from the previous questionnaire and formed the questionnaire used by Gill *et*

al. (1983). Klint and Weiss (1987) went on to modify the questionnaire by adding two items to create the version of the questionnaire which will be used in this study. The scale used here consists of 32- items assessing the various reasons why youth participate in sport using a five point likert scale. The dimensions have been shown to be independent and have reliability coefficients between 0.30 and 0.76. (Gill, 1983).

Analysis of Results

Subjects were asked to complete the Participation Motivation Questionnaire (PMQ) and the Self-Perception Profile. Results from the 32-item PMQ were used to determine the general participation motive categories and the most salient reasons for participation in physical activity and sport. Results from the Self-Perception Profile were used to determine an average athletic, social, and global self-perception score. Subjects were placed in high, medium, and low competence groups based on their scores.

The SPSSX statistical package (SPSS Inc., 1991) was used to analyze the data produced by this study. Mean ratings of importance were calculated for each item on the Participation Motivation Questionnaire for the entire sample. Importance ratings were calculated with not at all important scored as 1, somewhat unimportant scored as 2, neither important nor unimportant as 3, somewhat important scored as 4, and very important scored as 5.

A principal component factor analysis with varimax rotation was performed on the thirty-two items contained in the Participation Motivation Questionnaire. The entire sample was included in the factor analysis. Factor analysis results were used to

determine if there were particular reasons that adolescents identified as important for their participation.

Multiple separate analyses of variance were conducted to establish whether the participation motives of adolescents rated high, middle, or low in perceived physical, social, and global competence were significantly different. Any significant results were further analyzed for group differences on specific participation motives using a Scheffé test. The dependent variables included in the analyses of variance were the general motive dimensions scores or factor scores of each subject estimated from the factor analysis results of this study.

Subjects were grouped into two age groups (a) 14-16 years and (b) 17-19 years. These groups were compared using an analysis of variance to determine if there was a significant difference in their preference for particular participation motives. The dependent variables included in the ANOVA were the general motive dimension scores of each subject estimated from the factor analysis results of this study.

An analysis of variance was used to determine whether there was a difference between males and females in their preference for particular participation motives. The independent variables used in this analysis were the factors identified from completing the factor analysis.

CHAPTER IV

Results

Data were collected from 194 male and female high school athletes involved in basketball, football, cross-country, and volleyball. In Table 1 the age, gender, and sport breakdown of the participants is summarized. Of the individuals involved in this study, sixty-two were females and one hundred and thirty two were males. Ninety participated in basketball, thirty in football, twelve in cross-country and sixty in volleyball. There were seventy-six fourteen year olds, thirty-seven fifteen year olds, thirty-one sixteen year olds, twenty-eight seventeen year olds, fifteen eighteen year olds, and four nineteen year olds.

Mean ratings of importance for motivators on the Participation Motivation Inventory

Mean ratings were calculated and summarized in Table 2 and ratings of importance derived. These ratings of importance provide some descriptive data about which items were important participation motivators for the sample. The most important motives are those which are greater than one standard above the mean, while the least important motives are those which are less than one standard deviation below the mean. For this study the mean was 4.15 and the standard deviation was 0.35 indicating that the top motives are those above 4.5 while the least important motives are those below 3.8. These motives are listed in bold print in Table 2. The ten most important motives and the ten least important motives are listed in Table 2 regardless of their statistical position as this provides additional practical information.

Table 2

Most and Least important motivators identified by the sample

Most Important Motives		Least Important Motives	
Motive	Mean Rating	Motive	Mean Rating
1.I like to have fun	4.65	1.I want others to notice me	3.46
2.I like to be physically active	4.58	2.I want to be popular with others	3.52
3.I want to learn new skills/ I want to do something I 'm good at	4.56	3.I like to get rid of energy	3.56
4.I want to get in shape and get stronger	4.55	4. My parents want me to participate	3.59
5.I want to improve my skills	4.53	5.I want to release frustrations	3.63
6.I like the excitement	4.46	6.I like to get out of the house	3.69
7.I like the action	4.45	7.I like the coaches	3.84
8.I like the teamwork	4.42	8.I like to receive ribbons and trophies	3.89
9.I like the team spirit	4.40	9.I like to feel important	3.95
10.I like the challenge	4.36	10.I like to use the equipment	3.96

Note: Other information- (1) large difference between 1& 2 on important motives, (2) break between 5 & 6, (3) similar to (1) for least important, (4) large break between 6& 7, (5) for the most important motives .29 separated top from bottom, for the least important motives .59 separated top from bottom.

Of the 32-items examined on the Participation Motivation Inventory fitness, skill improvement and fun motives were rated the most important. In contrast, the motives: I want others to notice me and I want to be popular with others were rated the lowest.

Factor Analysis Results

A principal components extraction with varimax rotation was performed through SPSS on 32 items from the Sport Motivation Questionnaire for the sample. The sample size was adequate with a six to one ratio of subjects to variables (Tabacknik & Fidell, 1996). There were no missing data. Further, there was no multicollinearity and singularity exhibited in the data. Some skewing of the variables

was exhibited. The factorability of R was appropriate as the correlation matrix revealed numerous correlations of 0.30 or above. This indicated that patterns in response to the variables should be anticipated.

In order to examine the number of factors that should be extracted from the data a scree test was performed. This test indicated that there were that accounted for 57% of the variance in the sample (Table 3). These factors in descending order of importance were named personal/physical development (1), social recognition/status (2), affiliation (3), energy release (4), and competition/excitement (5). The communalities indicated that all factors were well defined by the variables.

Table 3.

Total Variance Explained by the Factor Solution

Component	Eigenvalues			Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Rotated factors	% of Variance	Cumulative %
1	11.02	34.44	34.44	11.02	34.44	34.44
2	3.04	9.49	43.92	3.04	9.49	43.92
3	1.69	5.27	49.19	1.69	5.27	49.19
4	1.46	4.55	53.74	1.46	4.55	53.74
5	1.16	3.64	57.37	1.16	3.64	57.37

The personal development factor was characterized by items such as liking to be physically active, wanting to get in shape, liking the challenge, action and fun, wanting to learn new skills, wanting to improve skills, and wanting to be on a team. The Social Status/Recognition factor was characterized by items such as wanting to be popular with others, my friends want me to participate, I like to feel important, I want to release frustrations, I want others to notice me, I want to get out of the house, I like to receive ribbons and trophies, I want to be with my friends. The Affiliation

factor was characterized by liking the team spirit, liking the coaches, I like to do something I'm good at, I like to use the equipment, I want to meet new friends, I want to compete at higher levels, I like to have something to do. The Energy Release factor was characterized by the items I like to travel and I like to get rid of energy. The squared, multiple correlations indicated that all factors were well defined by the variables. The lowest squared multiple correlation for factors from variables was 0.46.

A cut off of 0.45 was used for inclusion of a variable in the factor solution as indicated in Tabachnick and Fidell (1996). All of the variables loaded on one of the five factors. Only three items loaded on more than one factor (a) I want to learn new skills,(b) I like being on a team, and (c) I want to improve my skills.

A varimax orthogonal rotation was completed. Loadings of variables on factors are shown in Table 4. Variables were ordered and grouped by size of loading in order to facilitate interpretation. Loadings under 0.45 were replaced by zeros. Interpretive labels for each factor are listed as titles for that factor in Table 3. The proportion of variance accounted for by a factor is the amount of variance in the original variables that has been condensed into a factor (Tabachnick & Fidell, 1996). The table indicates that personal/ physical development was the most important factor (34.4%), followed by social status/ recognition (9.4%), affiliation (5.3%), energy release (4.5%) and competition /excitement (3.6%).

Table 4.

Varimax Rotated Factor Analysis Results

Item	Factor Loadings				
	1	2	3	4	5
<i>Personal & Physical Development</i>					
I like to physically active	.797				
I want to get in shape or get stronger	.793				
I like the challenge	.723				
I like the action	.716				
I like to have fun	.704				
I was to stay in shape	.683				
I want to learn new skills	.561		.612		
I want to improve my skills	.525		.453		
I like being on a team	.481				
<i>Social Status/Recognition</i>					
I want to be popular with others		.819			
My friends want me to participate		.780			
I like to feel important		.715			
I want to release frustrations		.713			
I want others to notice me		.671			
I want to get out of the house		.632			
I like to receive ribbons and trophies		.569			
I want to be with my friends		.495			
<i>Affiliation</i>					
I like the team spirit			.712		
I like the coaches			.619		
I like to do something I'm good at			.512		
I like being on a team	.481		.490		
I like to use the equipment			.487		
I like to meet new friends			.485		
I want to compete at higher levels			.468		
I like to have something to do			.458		
<i>Energy Release</i>					
I like to travel				.549	
I like to get rid of energy				.488	
<i>Competition /Excitement</i>					
I like to compete					.897
I like the excitement					.879

Bold Type indicates complex items

The internal consistency of the factors was examined using Cronbach's alpha. Alpha values ranged from 0.60 to 0.90 (Table 5). The factor scores will be used for all further samples. The internal consistency of a factor is said to be acceptable if the alpha value is 0.80 or above (SPSS Inc., 1993). Using this cut-off the energy release factor is somewhat suspect. However, energy release has been identified in the literature by many studies done on participation motivation (Gill et al. 1983; Gould et al, 1985; Klint & Weiss , 1986). Further, the energy release factor identified in previous research has loaded on the same items in each study: energy release and travel. With this in mind it will be included as a viable factor in this study.

Table 5

Cronbach's Alpha Values for Statistically Significant Factors

Factor	Cronbach's Alpha Value
Personal & Physical Development	.90
Social Status/Recognition	.89
Affiliation	.86
Energy Release/Travel	.60
Competition/Excitement	.79

One-way Analysis of Variance

Separate one-way analyses of variance were completed in order to determine if significant differences existed between individuals who were low, medium, or high in social, physical and global perceived competence. ANOVAS were also conducted to determine if there were significant age and gender effects. The statistical results for each perceived competence domain, gender and age are summarized and discussed in their appropriate sections in the following analysis (Tables 6-10). Each table describes the F-value, the level of significance, and the results of Post-Hoc analyses.

The Post-Hoc results describe which groups were significantly different. For example, the personal and physical development factor emerged as a significant factor differentiating high medium and low competence perceived global competence individuals. This is reported as H>M>L in the Post –Hoc analyses column. Indicating that high perceived global competence individuals are more motivated by personal and physical development than medium and low global competence individuals. Further, this indicates that medium perceived global competence were more motivated by personal and physical development than low competence individuals.

Perceived Global Competence

In order to determine if subjects rated high, medium or low in perceived global competence could be differentiated by their participation motives, factor scores were created for each subject on all five factors. These factor scores were then used as dependent variables in a one-way analysis of variance. A significant F was found for perceived global competence (Table 6) on the following factors: personal and physical development ($F = 6.31, p > .05$), and social status/ recognition ($F = 6.31, p > .05$). A Post-Hoc Scheffe Test revealed that the high, medium, and low perceived global competence groups were each significantly different from one another on the personal/physical development factor and the social status/recognition factor.

Table 6

Anova Results for Perceived Global Competence

Factor	Sum of Squares	df	Mean Square	F	Sig	Post Hoc Test
Personal & Physical Development	11.96	2, 191	5.98	6.309	.002**	H>M>L
Social Status & Recognition	7.26	2, 191	3.63	3.73	0.03*	L>M>H
Affiliation	3.99	2, 191	1.99	2.02	0.14	n/a
Energy Release	1.98	2, 191	0.99	0.37	0.37	n/a
Competition & Excitement	1.92	2, 191	0.96	0.96	0.39	n/a

Note- H, M, L refer to high medium and low competence groups.

*=p< .05 level, **=sp< .01 level

Specifically, the high global competence group was most motivated by personal/physical development followed by the middle competence group and finally, the low competence group. The high global competence group was least motivated by social status/recognition while the middle and low competence groups were more motivated by this factor.

Perceived Physical Competence

In order to determine if subjects rated high, medium or low in perceived physical competence could be differentiated based on their preferences for particular participation motives, a one-way analysis of variance was performed (Table 7). Factor scores were created for each subject on all five factors. These factors were then used as dependent variables in an analysis of variance. A significant $F = 17.55$, $p > .001$ was found for the personal/physical development factor. A Post-Hoc Scheffe test was conducted to determine which of the perceived physical competence groups (high, medium or low) were significantly different from one another for the personal/physical development factor.

Table 7

Anova Results for Perceived Physical Competence

Factor	Sum of Squares	df	Mean Square	F	Sig	Post Hoc Test
Personal & Physical Development	29.9	2, 191	14.98	17.55	0.000**	H>M>L
Social Status & Recognition	0.001	2, 191	0.0007	0.41	0.99	n/a
Affiliation	0.82	2, 191	0.41	0.001	0.67	n/a
Energy Release	1.21	2, 191	0.60	0.60	0.55	n/a
Competition & Excitement	1.28	2, 191	0.64	0.64	0.53	n/a

Note- H, M, L refer to high medium and low competence groups.

*= $p < .05$ level, **= $p < .01$ level

Specifically, the high perceived physical competence group was most motivated by personal/physical development followed by the middle and low perceived physical competence groups.

Perceived Social Competence

In order to determine if subjects rated high, medium or low in perceived social competence could be differentiated by their participation motives, factor scores were created for each subject on all five factors. These factor scores were then used as dependent variables in a one-way analysis of variance. A significant $F(2,191)=10.04$, $p > .01$ was found for the personal/physical development factor (Table 8). A Post-Hoc Scheffe test was conducted to determine which groups differed in their preference for personal/physical development as a motivator.

Table 8

Anova Results for Perceived Social Competence

Factor	Sum of Squares	df	Mean Square	F	Sig	Post Hoc Test
Personal & Physical Development	18.36	2, 191	9.18	10.04	0.00**	H>M>L
Social Status & Recognition	2.30	2, 191	1.15	1.15	1.15	n/a
Affiliation	0.17	2, 191	0.09	0.09	0.92	n/a
Energy Release	1.05	2, 191	0.53	0.52	0.59	n/a
Competition & Excitement	0.40	2, 191	0.20	0.19	0.82	n/a

Note- H, M, L refer to high medium and low competence groups.

*=p<.05 level, **=sp< .01 level

Specifically, the high social competence group was most motivated by personal/physical development followed by the middle and low competence groups.

Gender

In order to determine whether males and females could be differentiated based on their participation motive preferences a one-way analysis of variance was performed. Factor scores were used as dependent variables in the analysis of variance (Table 9). Of the five factors only one resulted in any significance. Specifically, boys were more motivated than girls by social status/recognition.

Table 9

Anova Results for Gender

Factor	Sum of Squares	df	Mean Square	F	Sig	Post Hoc Test
Personal & Physical Development	0.33	1, 192	0.33	0.33	0.56	n/a
Social Status & Recognition	6.09	1, 192	6.09	6.26	0.01*	M>F
Affiliation	0.81	1, 192	0.81	0.81	0.37	n/a
Energy Release	0.02	1, 192	0.02	0.02	0.88	n/a
Competition & Excitement	1.67	1, 192	1.67	1.68	0.19	n/a

Note- H, M, L refer to high medium and low competence groups.

*=p<.05 level, **=sp< .01 level

Age

A one-way analysis of variance was performed to determine if children in early adolescence differed from those in late adolescence in their preference for particular participation motives. Factor scores were created and used as dependent variables in the analysis. Adolescents were grouped into the following categories: 14-16yrs, and 17-19yrs and then compared for differences. No age-related differences in preference for particular participation motive dimensions were found between the two groups on the analysis of variance, however as stated earlier these results should be interpreted with caution (Table 10).

Table 10

Anova Results for Age

Factor	Sum of Squares	df	Mean Square	F	Sig	Post Hoc Test
Personal & Physical Development	0.50	1, 192	0.50	0.50	0.48	n/a
Social Status & Recognition	0.19	1, 192	0.19	0.19	0.66	n/a
Affiliation	0.31	1, 192	0.31	0.31	0.58	n/a
Energy Release	1.45	1, 192	1.45	1.46	0.23	n/a
Competition & Excitement	0.86	1, 192	0.86	0.86	0.36	n/a

Note- H, M, L refer to high medium and low competence groups.

*=p<.05 level, **=sp<.01 level

CHAPTER V

Discussion

The main purpose of this study was to identify the reasons adolescents give as motives for participation in high school sport programs. The secondary purposes of this study were to determine (a) if levels of perceived competence affected the reasons why adolescents participated in sport, (b) if there are developmental differences in preference for particular participation motives in early and late adolescence, and (c) if males and females differ in their reasons for participating in high school sports. In order to clearly present the findings of this study the discussion is divided into sections. Section one focuses on the descriptive results of the factor analysis and section two on the relationship between participation motives and levels of perceived competence, gender and age.

General Participation Motives

This study attempted to identify the reasons given by adolescents as motives for participation in various interscholastic sports in a variety of urban secondary schools. In order to determine the number of factors that exist in the sample a scree test was performed. The scree test is a negatively decreasing plot of the eigenvalues plotted against the factors where the number of factors in the sample is denoted by a change in the slope of the line plotted on the scree graph. This change in slope involves the judgement of the researcher but becomes much more obvious as the sample size of the population gets larger. It is important to have an adequate sample size in order to determine the appropriate number of factors within the sample. According to Commrey and Lee (1992) the sample size is rated fair based upon the

following categories: fifty as poor, one-hundred as poor, two-hundred as fair, five hundred as very good, and one-thousand as excellent.

Sample size also directly affects the reliability of the factors in the sample. Correlation coefficients tend to be less reliable when estimated from a small sample. In studies that have examined the reasons adolescents give for participating in sports, the sample sizes have varied greatly (Gould et al., 1985; Gill et al., 1983; Brodtkin & Weiss, 1990; Klint & Weiss, 1987). The differences in the sample sizes of this study and those in the literature may account for the different number of factors that have been revealed.

Heterogeneity in the sample is necessary for reliable factor analysis. Heterogeneity leads to a more complete set of factors while limiting the heterogeneity of the sample may lead to the exclusion of viable factors. This study examined four different sports and included a variety of age ranges. Further details on the range of ages in this study and the effect on results will be discussed in a later section. The heterogeneity of the sample of Gill et al. (1983) and the current study were much greater than those of Gould et al. (1985), Brodtkin and Weiss, 1990 and Klint and Weiss (1987), which may also contribute to the variations in the number of factor solutions seen in the participation motivation research to date. Outliers in the sample population may contribute to the difference in the variance accounted for by this study and those in previous research. In this study outliers played a role in the comparatively low amount of variance accounted for by this study.

The factor analysis results of this study indicated that adolescents involved in interscholastic sports participated for five main reasons. In rank order of importance

these included personal and physical development, social status/recognition, affiliation, energy release and competition/excitement. Personal & physical development was identified as the most important participation motive dimension in the study and accounted for thirty four percent of the variance in the sample. In previous research using the Participation Motivation Questionnaire an eight factor solution was identified by Gill et al. (1983), while a seven factor solution was identified by both Gould et al. and Klint and Weiss (1986), and Brodtkin & Weiss (1990). In the current study, a five factor solution was identified. It is important to note that the percentage of variance accounted for in previous research has been between 70-80% (Gill et al., 1983; Brodtkin & Weiss, 1992) As a result, the following results should be interpreted with caution.

The identification of personal and physical development as a motivating factor for participation in sport is not new. Most of the research in this area has examined the reasons adolescents participate in sports in an attempt to ameliorate declining participation trends. Studies similar to this one using the Participation Motivation Questionnaire have revealed that children participate to develop themselves (Gill et al. 1983, Gould et al., 1985, Klint & Weiss, 1986, and Brodtkin & Weiss, 1990). This is consistent with Harter's theory of competence motivation. She suggests that individuals are motivated by competence related reasons that can be physical, social or cognitive (Harter, 1981). Individuals may view participation in physical activity as synonymous with improvements in personal and physical skills.

The current study found personal and physical development, social status/recognition, affiliation, energy release and competition/excitement as important

factors for participating in sport in the sample. When compared with previous studies (Gill et al. 1983; Gould et al. 1985; Klint & Weiss, 1986; Brodtkin and Weiss, 1990) the health and fitness development dimension was common among the five studies and was similar to the personal and physical development factor identified in this study. Social status and recognition was identified in two of the previous studies and in the current study as well. Affiliation was identified in three of the four previous studies as well as in the current study. Fun was a factor for Gill et al. (1983) but was part of the physical and personal development factor in the current study. The energy release and achievement/competition factors have been identified as important factors in four of five studies while competition was identified in all of the previous studies and the current one. It is interesting to note that the energy release and competition dimensions have consistently been identified by participants as important reasons for participating despite their level of perceived competence. The current factor structure was most similar to that of Brodtkin and Weiss with the five factors in the current study identified in the seven factor solution identified by Brodtkin and Weiss (1990). The two factors identified by Brodtkin and Weiss (1990) that were not identified in the current study were significant others and fun.

Despite several similarities in the reasons adolescents participate in sport there are some differences that have been revealed. Weiss and Petlichkoff (1989) suggest the conflicting results of research on participation motivation may be explained by factors other than sample size and diversity. They identify three potential sources for this variation: the level of intensity, school versus non-school based programs, and the type of sport.

The subjects in this study were involved in sport characterized by a different level of intensity from those in previous research. They were involved in low intensity school related sport programs and participated less for competition related reasons and more for personal and physical development and affiliation reasons. Intensity levels are usually synonymous with levels of competition (Weiss, 1993). High levels of intensity associated with high levels of competition may promote motives such as competition and achievement, whereas low levels of intensity may promote participation motives such as affiliation and fun. Studies to date have examined gymnasts involved in both competitive and recreational gymnastics program (Klint & Weiss, 1986), swimmers involved in a YMCA recreational swimming program (Brodkin & Weiss, 1990), children in a summer sports school (Gill et al., 1983) and children involved in competitive swimming (Gould et al., 1985). In comparison, the current study examined participants involved in low intensity school related sports. Each of the previously mentioned studies examined different sport intensity levels, which may promote different types of participation motives. Klint and Weiss (1986) are the only authors who have compared the motives of competitive and recreational athletes. Klint and Weiss (1986) found that those adolescents involved in competitive sport cited competitive challenge and skill development as their most important reasons for participation whereas those involved in recreational sport identified fun and situation as important reasons for participation. Specifically, competition related motives were identified by thirty eight percent of the competitive group while fun was not identified by any of the competitive participants. For recreational gymnastics 3.8% identified competition as a reason for participating

while thirty nine percent identified having fun as a reason for participating. Gould et al (1985), Gill et al (1983) and Brodtkin and Weiss (1990) each used samples which included high intensity competitive sport participants. For these studies achievement and competition related motives accounted for thirty- eight, forty and thirty eight percent of the variance in the samples respectively. The competitive participants in Gould's study did not identify fun as a participation motive dimension. In Gill's study fun accounted for less than 1% of the variance in the sample. In Brodtkin and Weiss (1990) fun accounted for 3.2% of the variance in the sample. In the current study, recreational participants identified personal and physical development as the most important reason for participating accounting for 34% of the variance. Also, competition and excitement was identified as a participation motive dimension accounting for 3.6% of the variance. In the current study recreational participants chose to participate to develop themselves, whereas in previous studies competitive participants chose to compete for competitive reasons. The different intensity levels experienced by the youth in the participation motivation studies mentioned here may have contributed to the different numbers of factors and subtle variations in motives that were identified. There may be a need to examine sports programs that have a competitive orientation separately from those with a recreationally orientation to determine which motives are most important in each orientation. This type of analysis may reveal a participation trend among elite athletes when compared with their recreational counterparts.

Participation motives of adolescents involved in school and non-school based sport programs may differ markedly (Weiss and Petlichkoff, 1989). The school-

based programs examined in this study retained many players who wanted to participate despite their skill level. This promotes affiliation reasons for participation as participants who do not play regularly remain with the team for the affiliation, for social status reasons or for the learning experience. On the other hand non school-based programs tend to retain players due to their skill level and competitive value for the future success of the team. This may not be consistent for all high school athletes. On the other hand, individuals involved in non school-based sport may identify competition reasons more as few are retained if they are not good enough to help the team win. The relationship between player status and participation motivation may exist to some extent within competitive sport but not to the same extent as in school-based sport programs (Weiss, 1993; Gould & Petlichkoff, 1988; Robinson & Carron, 1982). This difference in status group within the sport participant population was not discussed in the current study or in previous research but it is important when considering what motivates athletes in school and non-school sports.

Studies addressing the sport participation motives of children have examined the role the sport type plays in an individual's decision to participate, in a limited fashion. In each of the studies describing participation motives, a sport by sport analysis was not completed. The current study examined football, basketball, volleyball and cross-country and as such included team as well as individual sports. These sports were analyzed together primarily for statistical reasons but each may have had specific motives associated with them that were not statistically significant when the two groups were grouped together. Sport type may account for some of the variations in the sport participation studies to date. Team sports such as football and

basketball are more apt to have affiliation motives associated with them as there are multiple members of the team while sports such as cross-country are more apt to have motives such as personal and physical development. This may be a result of the individualized training and practice associated with this latter group of sports (Weiss & Petlichkoff, 1989). Spink and Longhurst (1987) investigated whether sport type influenced participation motives in Australian youth involved in individualized and team sports. They found that action, fun and being with friends were identified more by adolescents involved in team sports such as cricket, Australian rules football and netball. The authors suggested that the characteristics of the sport of swimming, such as individual responsibility for winning in swimming are less likely to promote fun and affiliation motives. This may indicate that sport type may influence not only a person's decision to participate but also their willingness and reasons for continuing to participate.

Collision sports, non-contact sports, and culture specific sports each have their own physical and mental skills necessary for success. The type of skills needed for success may influence distinct groups of participants to gravitate to specific sports. Adolescents who mature earlier, both mentally or physically may have more opportunities for success in some sports which in turn may influence why they choose to participate in that sport (Weiss & Petlichkoff, 1989). In the current study, football may attract participants who are physically larger and faster whereas cross-country may attract participants who are less physically imposing but have greater endurance. There has been limited research on this topic but it may be of importance when attempting to determine the type of reasons given for involvement in particular sports.

From the results of the factor analysis, children appear to have multiple motives for participation. The five most important participation motives in this sample of adolescents are improving skills, being with friends, having fun, physical fitness, and liking the challenge. These factors are similar to those in other studies but some differences also appeared in this study compared to those of previous studies. Specifically, the factor structure in the current study differed from those in the literature as a result of the different sample of participants selected. In order to obtain a reliable and consistent set of factors future studies need to accommodate for sample size and sample heterogeneity. Further, theoretical factors such as program intensity level, school or non-school based programs, and sport type should also be examined.

Perceived Competence Levels and their Relationship with Gender, Age and Participation Motivation

A secondary purpose of this study was to determine if levels of perceived competence affect an adolescent's reasons for participating in school sport programs. The literature on perceived competence has identified three different competence dimensions: global, social, and physical. In order to measure each of these competence dimensions, subjects completed the Self-Perception Profile (Harter, 1982) and the Participation Motivation Questionnaire (Gill, 1983). The former revealed subjects' feeling about their abilities while the latter determined the motives for participating in sport.

Global Competence

In this study, subjects were grouped into high, medium and low perceived competence groups based on results from the Self-Perception Profile (Harter, 1981). Results indicated that children who were high in global perceived competence were more likely to participate in their sport to develop themselves personally and physically. Specifically, individuals highest in global competence could be differentiated from their middle and low competence peers by their desire to participate for personal and physical development reasons (Table 7). Further, individuals highest in global competence were least motivated by social recognition when compared with their middle and low competence peers.

The relationship between levels of competence and motives for participation is well established in the literature (Weiss & Chaumonton, 1992; McCauley, Weiss, Ebbeck & Wiese, 1990; Weiss & Horn, 1990). Researchers have examined the role perceived competence levels play on an individual's interpretation of success and how this affects their desire to participate. High levels of perceived competence lead a child to believe they are responsible for their own success and that failures can be reduced with time and practice (Roberts et al., 1981; Harter, 1981; Ryckman & Hamel, 1993). These high perceived competence individuals are less likely to use the opinions of others to define success and are more likely to use internal reasons to judge success. This internally derived set of standards allows the participant to determine why they succeeded or why they failed. With this knowledge a participant is less likely to become frustrated with his/her sport experiences and is more likely to begin participating and continue participating.

In the current study, high global perceived competence individuals chose to participate due to reasons such as physical improvement and skill development. According to Harter (1978, 1981, 1986) these intrinsically derived reasons for participating allow these individuals to understand that by monitoring their own successes and failures they can determine why failure resulted and what needs to be done to be successful the next time.

"A child low in self-esteem but who experiences success may look to discount what he or she sees as inconsistent with past behavior and attributable to luck. In response to an unsuccessful outcome a low self-esteem child may accept responsibility by attributing this outcome to a lack of ability. A high self-esteem child, in contrast will make attributions for success that are more internal, and personally controllable." (Weiss, 1993, p. 48).

Weiss, Bredemeier and Shewchuck (1986) examined the causal influence of perceived competence and control on participation motivation using structural equation modeling. They found that individuals act in a manner that is consistent with their beliefs about themselves. High global perceived competence was significantly related to children choosing to participate, suggesting that high levels of perceived competence will enhance a child's preference to consistently seek to challenge him/herself to increase skill development. Further, low levels of perceived competence were found to be related to children discontinuing sport participation. This supports the results of the current study in which adolescents high in global perceived competence preferred to participate to develop their personal and physical skills, while those low in perceived competence chose to participate for status.

Differences in high and low global competence individuals have been examined by Gould et al. (1985) and Klint and Weiss (1987) using the Participation Motivation Questionnaire. Results are equivocal on this issue. Gould et al. (1985) found no differences between high and low global and physical competence individuals involved in swimming relative to reasons for participating. This null result might be attributed to the fact that the coach and not the athletes themselves defined the swimmers ability levels. The coaches' views of their athletes' abilities may be quite different from those of the athletes. One might speculate that athletes might give personal ability judgements that are more directly related to their participation motives. In support of the current study, Klint and Weiss (1987) found that high and low perceived competence participants could be differentiated based on their reasons for participation. High perceived competence individuals participated to learn skills, improve skills, compete and for affiliation more than there low competence counterparts. Affiliation was not expected to be a factor differentiating high and low physical perceived competence individuals. Klint & Weiss (1987) suggested that individuals high in perceived physical competence view the team as a means of improving and demonstrating their skills. Further, they suggested that individuals of low perceived competence were less likely to play for fear of embarrassment. Klint and Weiss (1987) found no differences between high and low perceived global and physical ability on the fun, friendship, achievement/status, energy release, fitness, excitement/challenge factors. The current study found that participants who were high and low in global perceived competence differed on their preference for personal and physical development. High global competence individuals participated significantly

more for personal and physical development. There were no significant differences between high, medium and low competence groups for the affiliation, energy release, and competition/excitement factors in this study. The null results for these motive dimensions are supported in the literature. Previous research (Klint & Weiss, 1987; Gould et al. 1985) has not identified these motives as significant differentiators of high and low perceived global competence individuals. In this study, affiliation, energy release and competition motives do not differentiate high and low perceived global competence participants.

Results from this study and from the others in the literature suggest that participants with high global perceived competence are likely to participate for reasons different from those individuals with low global perceived competence. Specifically, high global competence individuals tend to participate due to an internally based set of reward standards, which allow them to define their own successes and failures. The ability to define their own experiences in sport allows these individuals to enjoy the sport environment and will promote continued participation.

Social Competence

The link between perceived social competence and achievement related behavior has led many researchers to emphasize the need for understanding children's social networks and their influence on behavior (Reisman, 1985; Sandler, Miller, Short & Wolchik, 1989). Social competence is extremely important to understanding an adolescent's need to excel, be motivated, and feel good (Reisman, 1985; Sandler et al., 1989). The relationship between perceived social competence and sport

participation has not been examined thoroughly in the sport research. In this study, perceived high, medium and low social competence groups could be differentiated by their preference for particular participation motives. Specifically, individuals who were high in perceived social competence were more motivated by the personal and physical development factor than their middle and low competence peers. There were no significant differences between high and low social perceived competence individuals on the social status/recognition, affiliation, energy release and competition/excitement factors in this study. These results differ somewhat from Klint and Weiss (1987). They found that high perceived social competence individuals chose affiliation and personal and physical development as reasons for participating significantly more than their low perceived social competence peers. This may indicate that individuals who are high in perceived social competence may find sport to be a means of maintaining or increasing levels of perceived social competence due to the high level of peer interaction. This development of perceived social competence with sport participation would be more likely to occur in team rather than individual sports. Further, individuals with high perceived social competence may feel that by further developing their skills they will be better accepted by their peers (Weiss & Duncan, 1992).

Some research has suggested that children high in domain specific perceived competence participate for competence related reasons such as personal and physical development rather than status related reasons such as social recognition, and that this promotes future motivated behavior (Harter, 1981; Klint & Weiss, 1987; Roberts, Kleiber & Duda, 1981; Ebbeck & Weiss, 1996; Sapp & Haukenstricker, 1978; Spink

& Longhurst, 1987). High levels of perceived social competence may allow these athletes to feel safe and therefore concentrate on developing their personal and physical skills rather than attempting to impress others by participating for social status related motives. Further, participants may believe that by developing their personal and physical skills they will continue to be accepted by their peers. Evans and Roberts (1987) examined the relationship between perceived physical competence and peer acceptance and found that those children or adolescents who are higher in perceived physical competence were more likely to be accepted by peers and were more likely to feel they were socially competent. These results may indicate that competence in one domain may affect perceived competence in another domain. Individuals high in perceived physical competence may find themselves more comfortable interacting with peers in the sport context and in turn may perceive themselves as more socially competent in the sport environment.

The manner in which perceived social competence develops within the context of sport has not been adequately explored, but it may relate to an overflow effect from other perceived competence dimensions. Some authors have suggested that participation in team oriented physical activity may contribute to the development of social competence by increasing the opportunity for social networking and social support mechanisms (Belle, 1989; Furman, 1989; Lever, 1987). Future research will be needed to establish the nature and development of the social networks that characterize the sport setting.

In conclusion, children and adolescents often cite affiliation and team related reasons for participating in sport and it is possible that a participant's level of

perceived social competence may have a direct or indirect effect on other perceived competence domains. This in turn may ultimately have an influence on the overall enjoyment of the sport experience. The understanding of perceived social competence within the sport context may be important from a motivational perspective as well as for general health. Unfortunately the relationship between sport participation and perceived social competence has not been vigorously explored. The current study indicates that sport participants who are high in perceived social competence are more likely to participate to develop their personal and physical skill compared to children who are low in perceived social competence. This may be because high perceived physical competence individuals feel more comfortable in the sport environment and thus show more perceived social competence.. Further, it is possible that high perceived physical competence individuals feel that by developing their skills they will gain favor with their peers which in turn leads to increased perceived social competence.

Physical Competence

The final dimension examined is the perceived physical competence dimension. In the current study individuals who were high in perceived physical competence were more motivated by personal and physical development motives. Specifically, these individuals were more motivated to participate in order to develop their own abilities than their middle and low competence peers. The research on high and low levels of perceived competence and the participation motive of personal and physical development has supported this relationship. Klint and Weiss (1987), Scanlan and Lethwaite (1986), and Gould et al. (1985) have examined the differential

assignment of participation motives among individuals rated high and low in perceived physical competence. Klint and Weiss (1987) found that children high in perceived physical competence gave reasons such as skill development, learning new skills and challenge as reasons for participation. Scanlan and Lethwaite (1986) discovered that high perceived physical competence is a competence that is valued by most participants and that when it is perceived to be high it is related to positive feelings of self-worth. Gould et al. (1985) found no difference in the participation motives for high and low physical perceived competence swimmers. As indicated earlier, this may have been influenced by the coach rating the athletes' perceived competence and not the athletes. The research in this area has defined the physical dimension in slightly different ways but the relationship with perceived competence is strong.

Age and Perceived Competence

The analysis of age-related questions in this study represents an attempt to examine the developmental nature of sport participation motives within an adolescent population. This information is imperative to physical activity organizers and administrators as they seek to design purposeful sport programs that address the needs of children at various age levels. There were no significant age effects in this study when subjects were grouped into the following age brackets: 14-16 years and 17-19 years. These results parallel those of Brodtkin & Weiss (1990) who found that younger and older children who were involved in recreational sport were not significantly different in their reasons for participation. Younger children aged 10-14 participated because they liked the coaches, wanted to get in shape and liked the

teamwork. Older high school aged children aged 15-22 years participated to stay in shape, get stronger, improve skills and because they liked the coach. Of the top four reasons cited by older and younger children, the only factor that was different for the two groups was improved skills. Older children cited this motive as one of the top four reasons for participating whereas younger children did not. Horn and Harris (1996) explained that the age-related trends within the sport context must be examined within the context of larger developmental changes occurring within the individual. Variations in physical and maturational changes may complicate the ability to define clear relationships between participation motives and age. Alternately, the lack of significant results in this study may mean that more significant developmental changes in sport participation motives occur with the change from early to late childhood or from adolescence into adulthood (Brodtkin & Weiss, 1990). Further, the small difference in the ages of each experimental group in the sample may have contributed to the null results witnessed here.

There is some evidence in the literature that developmental participation motive patterns do exist. Gould et al (1985) examined children and adolescents aged 8-11 years, 12-14 years, and 15-19 years and found that younger kids were most motivated by external factors such as coach, friends, parents, status, and facilities. Older participants were motivated by fitness, skill improvement, and challenge. Horn, Glenn, and Wentzell (1993) and Vealey and Campbell (1988) found a number of developmental changes in children aged 14-18 years. They found that athletes in the younger half of the age range were more likely than older adolescents to use evaluative feedback from peers to judge their ability. It was also found that older

athletes use self-determined performance standards and internal criteria to evaluate their competence at a particular sport. Similarly, Vealey and Campbell (1988) examined the reasons for participation of elite figure skaters and found that the tendency to participate and feel good about sport experiences was based on more internal factors as participants got older. Although the current study found no age related difference there appears to be some evidence in the literature which suggests that as adolescents grow older they tend to participate and enjoy sport more for internal based reasons as opposed to external ones. As adolescents grow older they begin to develop the ability to define their own successes and failures and develop their own internal standards. As these standards develop, children seem to rely on them more and more (Weiss, 1993).

In summary, there were no significant developmental differences in the factor analysis results in the current study when adolescents were grouped into the 14-16 and 17-19 year age groups. The small difference in the ages of the two experimental groups may have contributed to the null results witnessed here. The lack of significant results in this study may mean that more significant developmental changes occur at other points in an adolescent's life. Previous research is conflicting with some researchers finding significant differences among participants in the adolescent age group while others do not.

Gender

With the increased opportunities for females to participate in sport in the last few decades it is important to examine the differential assignment of importance to participation motives in males and females. Female scholars have suggested that the

socialization process occurs differently for males and females. Lirgg (1991) discovered that females value a sense of well being and maintenance of personal relationships more than males. This study also indicated that males were significantly more motivated by social recognition than their female counterparts. Perceived competence in the sport setting is also differentiated by gender (Horn & Hasbrook, 1986). Their research indicated that males are more likely to determine their perceived competence by their win-loss record while females use self-comparison and feedback from significant others as a means of establishing their competence. Research that has used the Participation Motivation Questionnaire has shown consistent differences in participation motives between males and females. Females were more motivated by fun, fitness, friendship and having something to do than males (Gould et al., 1985). Males were more motivated by achievement than females (Gill et al., 1983). Male athletes were more likely to use social comparison/winning as a reason for participating and for defining their own levels of perceived competence (Gill, 1992).

These gender differences in the sport environment may be due to changes in the social environment surrounding sport experiences during adolescence. Specifically, female participants in the adolescent years may experience conflicting messages about the purpose of their sport experiences. Researchers have suggested that gender stereotypes may affect a female's perception of her role in the sport environment (Gill, 1992;). These stereotypes which are usually demonstrated by coaches and administrators are manifested as lower performance standards for female participants. This would cause females to focus on sport as a means of having fun

rather than as a means of competing or excelling (Horn & Lox, 1993). Thus females who participate in sport are subject to different environmental conditions than males. This is particularly true when you have coaches who are a different gender than their athletes.

Conclusions & Recommendations

This study attempted to identify (a) the reasons adolescents give as motives for participation in high school sport programs, (b) the relationship between levels of perceived competence and the reasons why adolescents participate in sport, (c) whether there are developmental differences in preference for particular participation motives in early and late adolescence, and (d) whether males and females differ in their reasons for participating.

Results indicated that for this sample there are specific, general motive categories which may predict participation in the sport context. The current study indicated that children have multiple motives for participation. These results must be interpreted with caution due to the low amount of variance accounted for in this study. Outliers in the data may have contributed to skewing these results. These motives for participation included personal and physical development, social status/recognition, affiliation, energy release and competition/excitement.

Differences between the results of this study and those in previous research can be explained in part by considering statistical factors such as sample size and heterogeneity of the sample and theoretical factors such as program intensity level, school or non-school based programs, and sport type. The intensity level of the program in which participants are involved has an impact on their reasons for

participating. High intensity programs promote motives such as competition and achievement whereas low intensity programs promote fun and affiliation motives. School-based programs affect the motives of participants by allowing them to remain participating despite skill level. This promotes affiliation motives as participants are allowed to stay involved with the team and their friends regardless of their ability to help the team win. On the other hand, non school-based programs retain only the best players for their ability to help the team win. This promotes competition and status related motives by placing a value on the skill level of participants.

This study also attempted to determine if perceived competence levels influenced participation motives. Results indicate that students with high perceived social, global, and physical competence were more likely to choose personal and physical development as a reason for participating when compared with low perceived competence individuals. The evidence in this study and the literature suggests that participants with high global perceived competence tend to participate due to an internally based set of reward systems which allow them to define their own successes and failures. The ability to define their own experiences in sport allows these individuals to enjoy the sport environment and to continue participating.

High perceived social competence was found to be significantly related to personal and physical development. The current study suggested that this result stemmed from the fact that these individuals felt that by increasing their physical and personal skills they could increase or maintain their levels of perceived social competence. Further, individuals with high perceived physical competence may experience increased perceived social competence within the sport environment and

would choose to further develop their personal abilities as a means of increasing perceived social competence. It is possible that a participant's level of perceived social competence may have a direct or indirect effect on other perceived competence domains and perhaps their overall enjoyment of the sport experience. The understanding of perceived social competence within the sport context is important not only from a motivation perspective but also from a general health perspective.

The research in the area of perceived physical competence is inconsistent but its link to participation motivation is strong. There was a significant, positive relationship between perceived physical competence and skill development and challenge. In addition, there was a significant relationship between perceived physical competence and positive feelings of self-worth. Perceived physical competence is of the utmost importance for the participants of tomorrow. The many benefits associated with involvement in sport such as moral development, affiliation, and dedication are only able to develop if the adolescent is willing to participate.

In this study participants in early and late adolescence cited similar reasons for participating. There were no significant developmental differences in the factor analysis results in the current study when adolescents were grouped into the 14-16 and 17-19 year age groups. The lack of significant results in this study may mean that more significant developmental changes occur at other points in an adolescent's life or that there was not enough difference in the ages of the two groups examined. In this study, age did not appear to be a consistent determinant of participation motives in adolescents.

There are gender differences in preferences for specific participation motives. Specifically, males are more likely to choose social recognition as a reason for participating when compared with females. Females may use self-comparison ability judgments to define their perceived competence while males use winning and losing. This would indicate that a female would be more interested in comparing present performance to prior performance to determine competence. Males, on the other hand, use external status related criteria such as wins, losses, or awards to determine competence.

The following recommendations may help coaches to design programs that positively develop perceived competence and promote involvement in sport:

(a) Coaches should attempt to understand and satisfy each of the factors that motivate children to participate in sport. Children participate for multiple reasons. Sport should attempt to satisfy each of these reasons. If this is done, children will feel they are getting the most out of their sporting endeavors and wish to continue despite their level of athleticism or success. The result will be a positive influence on their participation in sport.

(b) Coaches should encourage participants to focus on motives for participation that are competence related. These motives seem to be related to higher levels of perceived competence and continued participation (Harter, 1981). This may lead to improved perceived competence and increased motivation to participate.

(c) Coaches should hold high unbiased expectations both males and females involved in the sport environment. Females should be encouraged to continue their self-comparisons as a means of determining competence but they should also be made

aware that they have a place in the sport environment and they can excel. Males should be taught to accept female participation and success as a normal part of sport. Expectations for each participant should be realistic, achievable, and void of pre-conceived notions regarding the sex of the athlete.

(d) In order to understand the reasons an adolescent participates in sport it is important to look at the changes that have occurred over time within that individual. Examining the differences in participants who are young adolescents compared to older adolescence may not reveal the necessary subtle changes that are going on within individuals.

As a result of this study, future research questions for consideration are:

1. Do sport by sport differences exist where preferences for particular participation motives are concerned?
2. How do the motives of competitive and recreational athletes differ, and how does this affect perceived competence?
3. Do other motivational theories such as those of Marsh, Nicholls or Bandura better explain participation trends in the sport context?
4. Do longitudinal studies reveal much more than cross-sectional studies concerning the development participation motive changes between early and late adolescence?

The research on motivation and sport participation must continue so that educators have a more comprehensive understanding of their athletes and can direct their coaching behaviors towards significant participation motives. Only then may we see an increased desire on the part of children and adolescents to stay in the world of sport.

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APPENDIX A:

Written Informed Consent for Parents

Sample Letter for Parental Consent

Dear Parent/Guardian:

I am a Physical Education teacher at Satec@Porter Collegiate in the Scarborough Board of Education pursuing the Master of Arts degree in Education. I will be conducting a research project, aimed at understanding the relationship between an adolescent's belief about their own abilities and the reasons they choose to be involved in physical activity. More specifically, this study will explore the reasons why adolescents participate in interscholastic sports.

Your son/daughter's participation in this research project is completely voluntary, and they may withdraw from the study at any time, without explanation.

Information will be collected through the administration of two questionnaires. The questionnaires your son/daughter will be asked to complete, will take approximately 1 hour and will contain questions regarding his/her beliefs about their own physical abilities and their reasons for participating in interscholastic sports. The information collected will remain private and confidential. Students names will not be used for identification purposes, instead questionnaires will be given a number for identification purposes. A list of student's names and questionnaire numbers will be kept separate from the questionnaires themselves in a locked cabinet. Only the researcher and his researcher assistants will have access to the information during and after the study. Names of the participants will not appear in any document or written study. The data, and identification list will be destroyed within five years of the study (after the study has been written).

Your son/daughter's participation or lack of participation in this study will in no way affect their academic standing as a student at _____ Secondary School.

Permission to conduct the project has been granted from the Scarborough Board of Education, the teachers/coaches involved, and the University of Victoria Committee on Research Involving Human Subjects.

Your cooperation in this study will be greatly appreciated. Please return the accompanying slip as soon as possible.

Sincerely,

Makepeace Charles

APPENDIX B:

Letter of Introduction to Principals

Letter of Introduction to the School Principals

Dear Principal:

I am a Physical Education teacher at Satec@Porter Collegiate in the Scarborough Board of Education pursuing the Master of Arts degree in Education. I will be conducting a research project, aimed at understanding the relationship between an adolescent's beliefs about their own abilities and the reasons they choose to be involved in physical activity.

My intention is to conduct this study in the September to December period of the 1997 school year, with a sample of 340 boys and girls from the Scarborough Board of Education. I would be very grateful if you would be willing to allow me to speak with the young men & women participating in the volleyball, basketball, cross country, and football programs at your school.

The purpose of this study will be to examine how a student's level of perceived athletic ability relate to the reasons he provides for participating in physical activity. The findings of this research study will hopefully, have important implications on how physical education classes are used to promote increased participation in future physical activity.

I have selected your Collegiate because of the comparatively large numbers of students who participate in interscholastic sports. The other schools that have been approached for inclusion in this study are Woburn Collegiate, Agincourt Collegiate, Birchmount Park Collegiate, Cederbrae Collegiate, Bethune Collegiate, Mowat Collegiate, Porter Collegiate, and Churchill Collegiate.

Participation in this study would require that students respond to two written questionnaires after school during October or November (at the coaches convenience). This would involve minimal interruption of the sport program because the questionnaires would take approximately one hour to fill out. A room would be required (after school) so that students could complete the questionnaires required of this study in a quiet place. The privacy of the students would not be infringed upon in any way. The data, and identification list will be destroyed within five years of the study (after the study has been written).

Permission to conduct this study has been requested from the Scarborough Board of Education and the University of Victoria Committee on Research Involving Human Subjects. Should you require further information or have any questions concerning the investigation, please contact either myself (Home: (416) 754-0053), Work: (416) 396-3365, Fax: (416) 396-3371) or Dr. Dr. Rick Bell (University of Victoria: (250) 721-8377).

Should you consent to my request, I would be pleased to hear from you at your earliest convenience and would be grateful for the opportunity to talk to the coaches at your school. Many thanks.

Yours sincerely,

Makepeace Charles

APPENDIX C:

Instructions given to Subjects

Instructions Given to Subjects Prior to testing

My name is Makepeace Charles, I am a researcher from the School of Physical Education at the University of Victoria, where we are conducting research into the involvement of young people in physical activity.

In carrying out this research, I am trying to gain a better understanding of the reasons you participate in the sports you do. The information you will be providing today will be used to help teachers and coaches gain a better understanding of what types of programs may lead to better student enjoyment and participation. All of the responses you give today will be totally confidential, no-one shall read your questionnaire except myself, and no-one will at any time in the future be provided with any knowledge of your personal responses. Your responses to this questionnaire will have no effect on your academic standing.

This is not a test, there are no right or wrong answers. Rather, this is a questionnaire to gather information on your thoughts. It is extremely important, therefore, that you take your time and think the answers through carefully before answering the questions.

Questionnaire Instructions:

Self-Perception Profile: Listed below are 45 questions which are designed to give you the opportunity to describe what you are like. Please select which of the two statements best describes you, **and then**, whether the statement is “Sort of true of you” or “Really true of you”. Mark an ‘x’ in this box.

Sample question (written on board):

	Really True	Sort of T	Sort of T	Really True	
Some kids are good at math	?	?	?	?	Other kids are not as good at math

In this question if I believe that the first statement represents me I would place an X in the “Really True” box which states that Some kids are good at math, and that I feel as I am one of those kids. This statement is “Really true of me”.

Sport Motivation questionnaire:

There are 32 statements listed below which describe reasons for being involved in interscholastic sports. For each of the statements rate the importance of the reason given in the statement. Mark an ‘X’ in the box which describes the importance you give to the reason identified in the statement.

APPENDIX D:

Written Informed Consent for Students

Sample Letter for Student Consent

Dear Student:

I am a Physical Education teacher at Porter Collegiate in the Scarborough Board of Education pursuing the Master of Arts degree in Education. I will be conducting a research project, aimed at understanding how you feel about your athletic ability and the reasons you choose to be involved in physical activity (school sports).

Your participation in this research project is completely voluntary, and you may withdraw from the study at any time, without explanation.

Information will be collected through questionnaires, which will include questions on how you feel about your physical abilities and what motivates you to join interscholastic sports. The information collected will remain private and confidential. Your name will not be used for identification purposes, instead the questionnaires you fill out will be given a number for identification purposes. A list containing your name and questionnaire number will be kept separate from the questionnaires themselves in a locked cabinet. Only the researcher and his researcher assistants will have access to the information during and after the study. Your names will not appear in any document or written study. The data, and identification list will be destroyed within five years of the study (after the study has been written).

Your participation or lack of participation in this study will in no way affect your academic standing as a student at _____ Secondary School.

Permission to conduct the project has been granted from the Scarborough School Board, your coach, and the University of Victoria Committee on Research Involving Human Subjects.

Your cooperation in this study will be greatly appreciated. Please return the accompanying slip as soon as possible.

Sincerely,

Makepeace

Charles

____ I do / do not agree _____ to participate in the project proposed by Makepeace Charles from the University of Victoria.

Signature of Student

Date

If you would like a copy of the entire sample's results for the study please write your mailing address and phone number on the line below.

APPENDIX E

Communality Values for Factor Analysis results

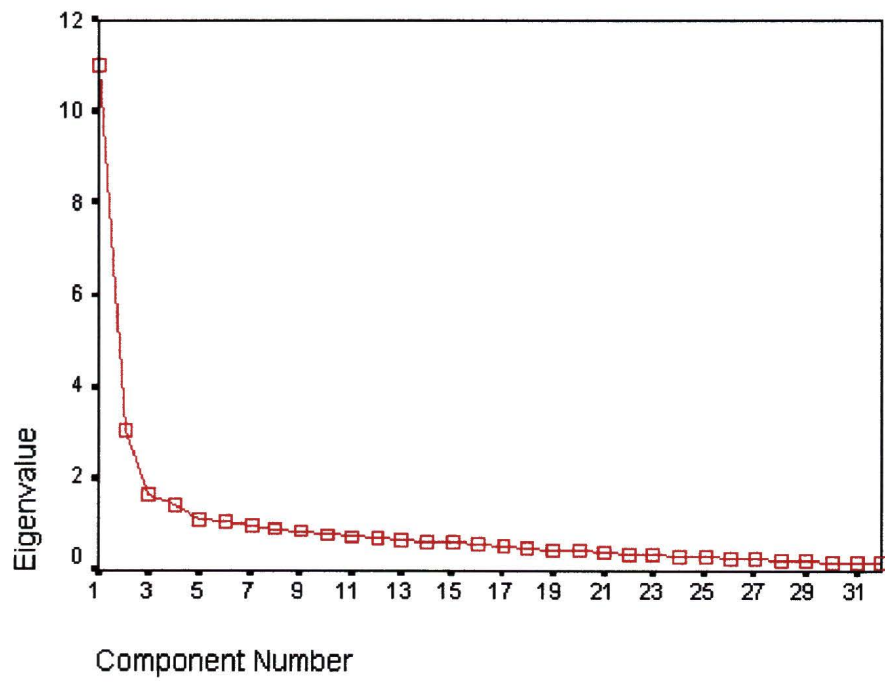
Communalities

	Initial	Extraction
Q46	1.000	.710
Q47	1.000	.686
Q48	1.000	.602
Q49	1.000	.601
Q50	1.000	.454
Q51	1.000	.448
Q52	1.000	.655
Q53	1.000	.700
Q54	1.000	.520
Q55	1.000	.193
Q56	1.000	.800
Q57	1.000	.822
Q58	1.000	.523
Q59	1.000	.516
Q60	1.000	.520
Q61	1.000	.459
Q62	1.000	.614
Q63	1.000	.545
Q64	1.000	.555
Q65	1.000	.527
Q66	1.000	.579
Q67	1.000	.569
Q68	1.000	.492
Q69	1.000	.718
Q70	1.000	.424
Q71	1.000	.674
Q72	1.000	.399
Q73	1.000	.671
Q74	1.000	.682
Q75	1.000	.581
Q76	1.000	.581
Q77	1.000	.538

Extraction Method: Principal Component Analysis.

APPENDIX F:
Scree Test Results for Factor Analysis

Scree Plot



VITA

Surname: Charles

Given Names: Makepeace

Place of Birth: Toronto, Ontario, Canada

Educational Institutions Attended:

University of Maryland	1998 to 2001
Ontario Institute for Studies in Education	1995 to 1996
University of Toronto	1991 to 1995

Degrees Awarded:

B. Ed Ontario Institute for Studies in Education	1996
B.P.H.E University of Toronto	1995

Honours and Awards:

Dean's Honor List-Univ. of Maryland-BCDS	2000-2001
Gorgas Odontological Honor Society	2000-2001
Darrell Hawkins Memorial Scholarship Award Winner	2000-2001
Int. Order of The King's Sons and Daughters Scholarship Winner	1999-2001
American Cancer Society-Research Fellowship Winner	1999-2000
Graduate Teaching & Research Fellowship- Univ. of Victoria	1997-1998
Dean's List - Univ. of Toronto, "A" Average	1995-1996
Royal Bank Academic All-Canadian Athlete-"A" Average	1995-1996
University of Toronto T-Holder's Award-Academic Excellence	1995-1996

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Title of Thesis:

Motives for Participation and Their Relationship to Perceived Competence

Author



Makepeace Charles

September 21, 2001