Occupying the crease:
The influence of parents and coaches on
New Zealand adolescent
participation in
cricket

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Abstract

The present study investigated whether the behaviours exhibited by parents and coaches had an influence on young cricketers' motives to participate in, or discontinue playing, cricket. Eight hundred and fifty-eight adolescent New Zealand cricketers completed a survey, which questioned them on their participation, or discontinuation, motives and their perceptions of the behaviours exhibited by their parents and coaches in relation to their participation in cricket. The results indicated that the behaviours of both parents and coaches were correlated with the participation/discontinuation motives of adolescent cricketers. Specifically, there was little difference in the associations between parental behaviour and both participation and discontinuation motivation, however, coaching behaviours were more strongly associated to the discontinuation motive than participation motives. This finding infers that coaches are a salient factor in young people's decisions to drop out of playing cricket. The analysis revealed multiple underlying motives for participating in cricket: team/enjoyment, achievement, affiliation, leisure/catharsis and skill/fitness. In addition, four categories of parental behaviour – supportive, criticising, interest in performance, and achievement focus - and three categories of coaching behaviour – supportive/instructional, punitive, and non-responsive – were identified. The relationships between participation motivation and both parental and coaching behaviours were similar to those between discontinuation motivation and the behaviours of parents and coaches. However, there were two exceptions: there was no association between both punitive and non-responsive coaching behaviours and participation motivation, and much stronger relationships between these two behaviours and discontinuation motivation. In conclusion, parents and coaches had an influence on the participation/discontinuation motives of adolescent cricketers in New Zealand through the behaviours they exhibited.

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Sport in New Zealand

With the exception of war, sport is perhaps the only device in New Zealand's society that is powerful enough to unite or divide the country. Mostly, sport brings people together against the rest of the world. Victories are shared by all as if every person had a role to play in the achievements of the country's sports people. Likewise, the burden of defeat weighs heavily, temporarily wounding New Zealand's collective psyche. However, sport also has the power to divide the nation, as well as families and friends, as was seen during the Springbok tour in 1981 and the Cavalier's tour in 1986.

In comparison to international standards, this country is an active nation (Hillary Commission, 1998a). Research in 1996 revealed that 98% of young people were involved in sport, while in the same survey nine out of 10 adults had taken part in sport and physical activities in the previous year (Statistics New Zealand, 1998). Nevertheless, the Hillary Commission (1998b) found that 36% of the adult population were inactive when judged by the amount of leisure-time physical activity they had participated in during the seven days prior to the survey.

In terms of cricket, Hillary Commission research currently in progress shows that amongst five to 17 year olds cricket is the fourth highest sport or physical activity that is participated in by males, with a 21% participation rate (Sue Walker, personal communication, 12/01/00). It is the eighteenth highest sport or physical activity that is participated in by females, with a 5% participation rate. With regard to adults, recent research completed by the Hillary Commission (1999) reveals that cricket is the second most highly participated in sport for men – 15% participation rate – and is the eleventh highest sport participated in by women – 4% participation rate.

The present study was conducted on New Zealand adolescents who had either played cricket or had discontinued playing cricket during the 1998/99 cricket season. It investigated the motives for playing and discontinuing playing cricket, as well as the influence of parental and coaching behaviours on these motivations.

This introduction shall continue with an overview of motivation before exploring the areas of participation/discontinuation motivation, socialisation and both parental and coaching behaviours. It will review the small body of literature that has examined participation/discontinuation motivation and socialisation together, and outline the nature of cricket. Finally, the research focus will be presented.

Overview of Motivation

The question of why people behave as they do is one that is pertinent to many individuals. Motivation can be defined as the intensity and direction of behaviour (Gill, 1986). Despite this simple definition, however, researchers have yet to fully understand the nature of the construct.

Several schools of thought have developed in an attempt to explain motivation. Roberts (1992) suggests that four major research traditions can be identified. These are the need achievement theory, the test anxiety approach, expectation of reinforcement theory, and the cognitive approach. Each of these theories will be briefly reviewed.

The need achievement theory is constructed on two motive states: the motive to achieve success and the motive to avoid failure (for example, Atkinson, 1957, 1958; McClelland, 1961). McClelland (1961) believed that these motives interacted with environment cues, which aroused effective states such as the feelings of pride and shame. Nevertheless, research on these constructs remains equivocal. Criticism has been levelled at McClelland's (1961) hypothesis and the work that has been conducted on it. Maehr and Nicholls (1980) have outlined several of the issues that have invited criticism. Firstly, personality was regarded as one of the central determinants of achievement behaviour. Secondly, the theory has been criticised for not taking into account cross-cultural differences in the way that people achieve. Thirdly, the application of the theory to females has been unsuccessful; in part due to the measurement procedures that have been utilised, which have conceptualised achievement in a way that was role-inappropriate for females (Horner, 1972). In addition, Maehr (1974) states that the model does not account for the situations where low-achievement individuals perform at heightened levels.

In the sport psychology literature, only partial support of McClelland's (1961) hypothesis can be found., that is, the motive to achieve success is present in many of the studies of participation motivation (for example, Gill, Gross, & Huddleston, 1983; Longhurst & Spink, 1987). However, evidence in support of the motive to avoid failure is not as forthcoming.

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The test anxiety approach posits that test anxiety is related to achievement in the performance of a task (Mandler & Sarason, 1952; Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960). Much of this research was conducted in anxiety-evoking situations, such as test taking and performing in front of peers. The research using this approach has produced evidence that motivational factors have an influence upon the anxiety-evoking situations, such as performing before peers and on achievement tasks. Roberts (1992) comments that despite the interest of sport researchers in anxiety, little work has been conducted in sport using this approach to motivation.

Crandall (1969) developed the expectation of reinforcement theory as a result of her studies into academic and intellectual achievement. Specifically, the expectation of reinforcement was found to be the major underlying motive for achievement, that is, the motive for achievement is self-approval and the approval of others. Little research has been conducted in the sports domain using the expectation of reinforcement theory (Roberts, 1992).

The cognitive approach dominates contemporary research on motivation (Roberts, 1992). It is based on the premise that thoughts mediate actions. One of the central theories in the cognitive approach is "attribution" theory (Weiner, 1979, 1986; Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971). Weiner's theory is based on the premise that individuals develop attributional theories in order to explain the causes of events, their own behaviour, and the behaviour of others. Roberts (1992) outlined a number of criticisms of attribution theory. Most of these criticisms have been successfully addressed, however, the major issue that remains is that this theory is more about the social psychology of perception rather than the psychology of motivation. In addition, the theory focuses on the expectancy element in the Expectancy × Value framework. It is focused on an individual's perception of his or her chances of obtaining an incentive and ignores the value that the individual places on the desired incentive (Weiten, 1995).

The social cognitive approach attempts to portray motivation as a dynamic construct, which incorporates cognitive, affective and value-related variables (Roberts, 1992). The most important mini-theories of this approach, that are utilised in the sport and exercise

literature, are self-efficacy (Bandura, 1977, 1986), perceived competence (Harter, 1978, 1981), and achievement goal perspectives (for example, Maehr & Nicholls, 1980; Nicholls, 1984). Of these theories, the latter two are reviewed with the participation/discontinuation motivation literature, while a brief account of the self-efficacy theory is given here.

Perceived self-efficacy is "people's judgements of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). It is concerned with what an individual's assessment of what can be achieved with his or her abilities, rather than how much ability the person has (Feltz, 1992). The theory distinguishes between efficacy beliefs and outcome beliefs. Efficacy beliefs pertain to an individual's judgement of his or her ability to perform at a given level, while outcome beliefs relate to the individual's judgement regarding the likely outcome of certain behaviours (Feltz, 1992). Bandura (1989) proposed that major sources of efficacy information – that is, performance accomplishments, vicarious experiences, persuasion, and psychological states – and behaviour/thought patterns are mediated by efficacy expectations. Feltz (1992) reports that although the theory is not without its critics, a consistent, significant relationship has been found between self-efficacy and performance. Furthermore, the equivocal nature of some of the research could be attributed to methodological concerns, rather than the conceptual soundness of the theory.

In an attempt to synthesis the theories of motivation, Roberts (1992) has proposed an integrative framework of the dynamic process of motivation (see Figure 1). It is not suggested that this model is complete, or that the variables are in the right order, rather, it is posited that these are major variables which mediate achievement behaviour.

Drawing on the work of Nicholls (for example, Maehr & Nicholls, 1980; Nicholls, 1984), ability is conceptualised in two ways. Firstly, task involvement is when an individual references his or her ability against past experience or knowledge. Secondly, ego involvement is when an individual references his or her capacity to perform a task to other people. This research has been used as a theoretical grounding for some studies of participation/discontinuation motivation (for example, Burton & Martens, 1986).
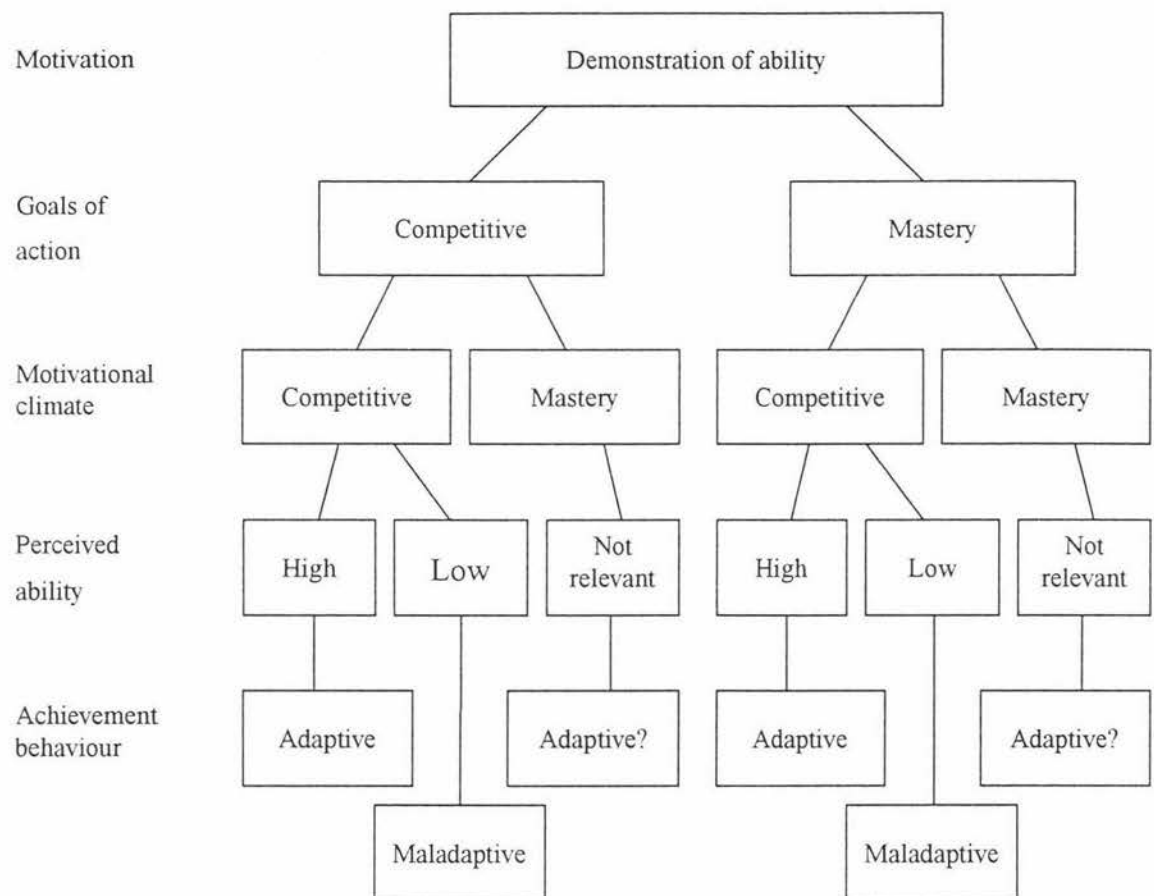
Figure 1. **The dynamic process of motivation.** From Roberts (1992).

An important aspect of any overall motivational theory in sport is the recognition that there are two goals of action (Roberts, 1992). Whilst recognising an individual's susceptibility to either competitive or mastery involvement, Nicholls (1989) suggests that different situations can influence a person's adoption of one type of involvement more than the other. As Duda (1992, p. 61) states "the literature provides us with evidence for the existence and salience of task and ego involvement goal states in the specific achievement context of sport". Therefore, the goals of action would be competitive involvement if an individual wanted to demonstrate ability in front of others, whereas mastery involvement would be adopted if an individual wanted to show mastery or learning.

The motivational climate is the psychological climate created by parents and coaches when socialising children into and through sport (Roberts, 1992). The behaviours of coaches, both in games and in practice, as well as the behaviours of parents and peers

influence the motivational climate towards either a competitive orientation or a mastery orientation. In logic, an individual who has goals that are mastery involved will be more motivated in a mastery climate. Similarly, an individual who is competitive involved is likely to be more motivated by a competitive climate.

The concept of perceived ability is present in many motivational theories, although it has been accorded different names. Despite the different terms, Roberts (1992) argues that concepts such as self-efficacy (Bandura, 1977, 1986), perceived ability (Dweck, 1986; Nicholls, 1984, 1989), and perceived competence (Harter, 1978, 1981) are very similar. Essentially, if an individual has a mastery orientation then his or her perception of ability is irrelevant (Roberts, 1984). However, if the individual has a competitive orientation then he or she will make three assessments when determining ability. That is, how the individual's ability compares with the person's opponents, how the opponents rate when compared with other opponents, and the individual's perception of the effort he or she is exerting.

In summary, many theories contribute to the understanding of human motivation. The present study is concerned with the motivations that drive individuals to begin involvement in sport, persist in sport, or drop out from their chosen sport or sport in general. More specifically, it is focused on the participation/discontinuation motivations of adolescent cricketers. Therefore, the following section will review the literature pertaining to participation/discontinuation motivation.

Participation/Discontinuation Motivation

Participation/discontinuation motivation has been regarded as an important area of research for the last twenty years. The questions of why athletes participate in, and discontinue from playing sport assumed importance in the early 1970s when Orlick (1974), amongst others, revealed high dropout rates in organised sport. In addition, concern was expressed over the competitive emphasis of sports programmes (Orlick, 1973). As a result, research continues in an attempt to produce information that will help make sports participation a life-long experience.

Descriptive Research

In the study of participation motives, common underlying dimensions of athlete motivation have been found. Gill, Gross and Huddleston (1983) administered an instrument with 30 participation motives to a sample of 1,138 subjects, ranging in age from eight to 18, from 11 sports or physical activities. These authors revealed eight factors that described the motives for participation. These were (a) achievement/status, (b) team, (c) fitness, (d) energy release, (e) situational factors, (f) skill development, (g) friendship and (h) fun.

Athletes tend to have more than one reason for participating in sport. Amongst the most important reasons for participation are: to improve or learn new skills, fun, challenge, fitness and friendship. However, the reasons given may be contingent on the age of the participant. Brodkin and Weiss (1990) surveyed 100 swimmers in six age groups. The groups were referred to as younger (six to nine years of age), older (10 to 14), high school/college age (15 to 22), young adults (23 to 39), middle adults (40 to 59) and older adults (60 to 74). As reasons for swimming, older adults rated characteristics of competitive swimming significantly lower than other swimmers, while older children and high school/college-age swimmers rated social status reasons more highly than did other swimmers. Younger children and older adults rated fun more highly, and significant others was rated as an important factor by children. With regard to

health/fitness motives, young and middle adults rated them most highly, while older children and older adults rated them lowest.

Cultural differences are an important issue when considering participation motives. A significant proportion of the studies in this area (for example, Alderman & Wood, 1976; Fry, McClements, & Sefton, 1981; Gill et al., 1983; Gould, Feltz, & Weiss, 1985) have been conducted in North America. However, a growing body of literature is beginning to develop in other countries, such as Australia (Longhurst & Spink, 1987; Robertson, 1981), England (White & Coakley, 1986), and Italy (Buonamano, Cei, & Mussino, 1995).

Longhurst and Spink's (1987) study of Australian children involved in organised sport gave evidence to support the findings of the North American studies, but suggested that cultural differences may exist. Specifically, the item "I like to have fun" was not ranked as highly as in previous studies and the item loading on two factors differed. The fun motive was ranked ninth, whereas it was ranked first and second, respectively, in Gould et al.'s (1985) and Gill et al's (1983) studies. The reason for this is unclear. Furthermore, in Longhurst and Spink's (1987) study, team atmosphere and achievement motives load on the same factor, with the status motives on a separate factor. This differs from the results of Gill et al. (1983) and Gould et al. (1985) where achievement and status motives load on the same factor and team atmosphere is separate. Longhurst and Spink (1987) tenuously attribute this to achievement often being associated with status in America. So therefore, the children who have participated in these studies have viewed achievement and status as similar concepts. This may be different in Australia where the club system has promoted "mateship", where team atmosphere and achievement are intertwined.

A further study that considered cultural differences was Buonamano et al's (1995) research into participation motivation in Italy. These authors sampled 2,598 respondents, ranging in age from nine to 19, who played a variety of sports. Of particular note was the finding that the factor solution for girls differed from that of the boys. Analysis of the boys' participation motives revealed a six-factor solution with extrinsic rewards as a separate factor from fitness/skill. However, in the girls' factor solution, skill motives were present with both extrinsic rewards and fitness. Buonamano

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et al. concluded that girls perceive that the social recognition of learning new skills is a more relevant participation motive than boys do.

Gender differences were also present in other studies (for example, Gill et al., 1983; Gould et al., 1985; Longhurst & Spink, 1987). In Gill et al.'s (1983) study achievement/status reasons for participating were rated more highly by boys than girls. Whereas, in Gould et al.'s (1985) study, fitness, friendship, something to do, and fun were motives that were ranked more highly by females than males. On the whole, however, little difference has been reported on the motives of male and female sport's participants.

Experience, ability and player status have all been hypothesised to be possible factors that could influence participation motives (Gould et al., 1985; Weiss & Fraser, 1995). However, there is little evidence to suggest that athletes who vary on these factors have different participation motives. Gould et al. (1985) found that swimmers who had less than one year of experience rated skill development higher than swimmers with greater experience. There were no variations in participation motives of those athletes who differed in coach-rated ability (Gould et al., 1985), or status on the team (Weiss & Frazer, 1995).

Parallel to the studies on participation has been research into why athletes discontinue sporting activities. Orlick's (1974) research into the reasons why 60 athletes, aged from seven to 19, dropped out of sport showed that younger athletes discontinued because of the competitive emphasis of the athletic programme and their coaches, while older athletes cited conflicts of interest as reasons for ending their participation. Specifically, younger athletes stated that they lacked exposure in terms of playing time, as well as exposure to successful or rewarding experiences. Older athletes stated that the sport that they had dropped out of had conflicted with other sports that they played and their lives in general.

Sapp and Haubenstricker (1978) conducted one of the first studies that examined reasons for both participation and discontinuation. It is important to note that the reasons given for athletic participation were not the same as those that were given for discontinuation. The reasons given for participation are not dissimilar to the results of

later studies (for example, Gill et al., 1983), whereas only two reasons were found for athletic discontinuation: involvement in other activities and working.

Although later findings of reasons for discontinuation of sporting involvement have not departed greatly from the reasons found in the two aforementioned studies, several other reasons have been cited. Poor athlete/coach communication (Pooley, 1981), lack of fun, lack of motivation, too time consuming, lack of ability (Burton & Martens, 1986), and too much pressure (Gould, Feltz, Horn, & Weiss, 1982) have all been cited as reasons why athletes have discontinued playing. Gould et al. (1982) attempted to reduce the number of reasons to reveal the underlying factors of discontinuation motivation. Unfortunately, the 10-factor solution was not interpretable. However, this may have been due to an unsatisfactory variable-to-subject ratio.

Klint and Weiss (1986) used Gould et al.'s (1985) instrument as well as structured interviews in their study of current and former gymnasts. Competitive gymnasts rated aspects of competition, fitness aspects, as well as the item "I want to improve my skills" more highly than gymnastic leavers did. In comparison to recreational gymnasts, gymnastic leavers were higher in aspects of competition and action motives, and lower in situational factors and the fitness motive. The competitive gymnasts rated aspects of competition higher than the recreational group. These authors also found weak correlations between motives for participation and attrition. This suggests that there is no consistent relationship between reasons for participating in, and reasons for leaving, gymnastics.

As in the studies on participation, some sex and age differences have been found in athletes' reasons for discontinuing their sport. Gould et al. (1982) found that females rated "I did not like the pressure" as a more important reason for discontinuation than males. The older age group (15 - 18 years old) rated "There was no teamwork", "My parents or friends did not want me to participate", "There was not enough challenge" and "I was injured" as more important reasons than the younger age group (10 - 14 years old). "I had other things to do" was rated more important by the younger age group.

In summary, descriptive research into participation/discontinuation motivation have revealed a fairly stable set of motives why people play or dropout of sport. It is evident, nevertheless, that these motives change with pertinent demographic variables such as age, sex, culture and the type of sport programme. The present research will add to this body of knowledge through exploring the participation/discontinuation motives of adolescent cricketers.

Theory-Based Research

Although the studies that have just been reviewed are salient in the understanding of why people play and discontinue playing sport, they provide little explanation of the participation/discontinuation motivation construct. As a consequence, authors such as Gould (1982) and Landers (1983) have argued that researchers must proceed to theory testing in order to make advances in the field of sport psychology, that is, researchers must advance from social empiricism to social analysis (Hollander, 1971; Iso-Ahola, 1980).

In an attempt to explain athletes' motives for participation and discontinuation, some authors (for example, Roberts, Kleiber & Duda, 1981; Burton & Martens, 1986; Klint & Weiss, 1987) have attempted to relate reasons for playing or leaving sport to motivational models. Thus far, three models have been utilised to underpin participation/discontinuation research (Weiss & Chaumeton, 1992). These models, as well as the corresponding participation/discontinuation research, are reviewed here.

Harter's Perceived Competence

Perceived competence motivation theory has been used widely in studies of participation/discontinuation motivation. Harter's (1978, 1981) model postulates that individuals are motivated to demonstrate competence through mastery attempts in three general skill areas: cognitive, social and physical. If the individual considers the task to be an optimal challenge and is successful in its performance, then intrinsic pleasure is derived from the experience. However, if the mastery attempt leads to failure, then this results in anxiety in subsequent mastery situations.

The individual's perceptions of competence and sense of control moderate the model. Individuals with higher perceptions of competence and control are likely to persist longer, exert greater effort and experience higher levels of intrinsic pleasure, whereas individuals with lower perceptions of competence and control are likely to give up more easily, exert less effort and experience anxiety in mastery situations.

Harter suggested that the socialising environment has an important role in mediating mastery attempts and an individual's perceived competence and internal perception of control. If a child's reinforcement history rewards him or her for undertaking individual mastery attempts then this, along with the positive affect of such performance, provides incentive for continuing mastery attempts. In addition to the positive evaluative message and general informational feedback, the child senses that these mastery attempts are desirable. This should lead to the child developing a sense of control over many outcomes in his or her life. The need for external approval diminishes as the child gets older resulting in the internalisation of a self-reward system and mastery goals.

Conversely, if the child's reinforcement history lacks rewards and embodies disapproval for independent mastery attempts, this manifests in the dependence on others for approval and goals. The child senses that mastery attempts are undesirable and this is likely to contribute to a perceived lack of competence as well as an external perception of control. The need for external approval persists or increases as the child gets older.

A number of researchers have applied Harter's theory to the sport setting (for example, Roberts et al., 1981; Feltz & Petlichkoff, 1983; Klint & Weiss, 1987; Weiss & Frazer, 1995). Roberts et al. (1981) conducted a comparison of participants and nonparticipants of organised sport activities. These authors found that participants scored more highly on cognitive competence, physical competence and general self-worth than did nonparticipants. Weak correlations existed between dimensions of perceived competence and perceived competence relative to teammates. Specifically, perceived physical competence was related to perceived relative competence for males, whereas cognitive competence, social competence and physcial competence were related to perceived relative competence for females. Sport participants had higher expectations of doing physical tasks well in future than did nonparticipants. In addition, participants would persist in a sport longer in which they were not as good as their teammates, than would nonparticipants.

Klint and Weiss (1987) also provided support for Harter's theory. In particular, gymnasts with higher levels of perceived physical competence rated skill development and affiliation-team atmosphere as more important reasons for participating than those gymnasts with lower levels of perceived physical competence. Additionally, those with

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higher levels of perceived social competence were more motivated by affiliation reasons for participation, whereas those with lower levels of perceived social competence rated challenge/excitement-related reasons more highly.

Nicholl's Perceived Ability Model

Instead of Harter's theory, some authors (for example, Burton & Martens, 1986; Vealey & Campbell, 1988) have used achievement motivation theory (Maehr & Nicholls, 1980, Nicholls, 1984) to underpin theoretically their research. Nicholls (1984, p. 328) defines achievement behaviour "as behavior directed at developing or demonstrating high rather than low ability". Ability may be conceived in two ways. Firstly, individuals may reference their ability to their past experience or knowledge. Therefore, any gains that are made in the mastery of a task are indicative of competence. Individuals exhibiting such behaviour would be regarded as being task involved. Secondly, individuals may reference their capacity to perform a given task against others. Therefore, in order to achieve, individuals must do so with equal or less effort than others. Such individuals would be demonstrating ego involvement.

Burton and Martens (1986) compared wrestling participants with those who had voluntarily dropped out of wrestling. The most important finding was that participants had significantly higher levels of perceived ability than did wrestling dropouts. Participants had been more successful in the previous season, had higher expectations of success in the future and valued wrestling more than the dropouts. In support of Nicholls's theory, findings from this study suggest that dropouts devalue wrestling, as they cannot demonstrate high ability. Burton and Martens (1986) state that preliminary evidence suggested that wrestling dropouts do not discontinue sport altogether, but switch to team sports. In this environment perceived ability is less threatened as success and failure are attributed to the team more than the individuals in it.

Vealey & Campbell's (1988) study supported Nicholl's theory that there were two ways of conceiving ability. These authors referred to the two dimensions as extrinsic orientation and task orientation. The achievement orientations of the figure skaters in the study differed. Adolescent skaters in highly structured sport competition focused on

demonstrating competence in attempting to gain social approval, whereas younger skaters who participated in less structured programmes focused on doing their best in attempting to gain social approval. In addition, self-referent, or performance goal, orientations were associated with lower levels of perceived stress displayed by adolescent skaters prior to competition, while norm-referent or outcome orientations were linked to higher levels of perceived stress before competition. As has been stated previously, higher levels of stress can lead to the discontinuation of sporting involvement (McGuire & Cook, 1983; Thornton, 1991).

Thibaut & Kelly's Social-Exchange Theory

Lastly, participation/discontinuation motivation has been studied in a cost-benefit framework (Petlichkoff, 1988). Thibaut and Kelly's (1959) social exchange theory was used as a conceptual base for Smith's (1986) cognitive-affective model of athletic burnout "to define the conditions under which withdrawal from a sport can be attributed to burnout" (p. 39).

Drawing on Smith's (1986) work with Thibaut and Kelly's (1959) social exchange theory, Gould and Petlichkoff (1988) have proposed a three-component integrated model of youth sport participation and withdrawal (see Figure 2). The first component depicts the motivation for youth sport participation and withdrawal. This component incorporates both surface-level reasons for sporting involvement, as well as theoretical motives. The surface-level reasons are found in descriptive research and recognise that individuals have multiple and varied motives for participation in, and withdrawal from, sporting involvement. The second part of the first component considers the theoretical constructs that have been developed in order to explain sporting involvement. These include achievement orientation (Maehr & Nicholls, 1980; Nicholls, 1984), competence motivation (Harter, 1978, 1981) and cognitive-affective stress (Smith, 1986).

The second component of the model is the costs-benefits analysis. Gould & Petlichkoff suggest that an individual's decision to participate, continue participation or withdrawal will depend upon the perceived benefits and costs of participation. Smith (1986) has applied Thibaut and Kelly's (1959) theoretical formulation to the sporting domain.

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Thaibaut and Kelly's basic premise was that individuals strive to maximise their chances of having positive experiences while attempting to minimise negative experiences.
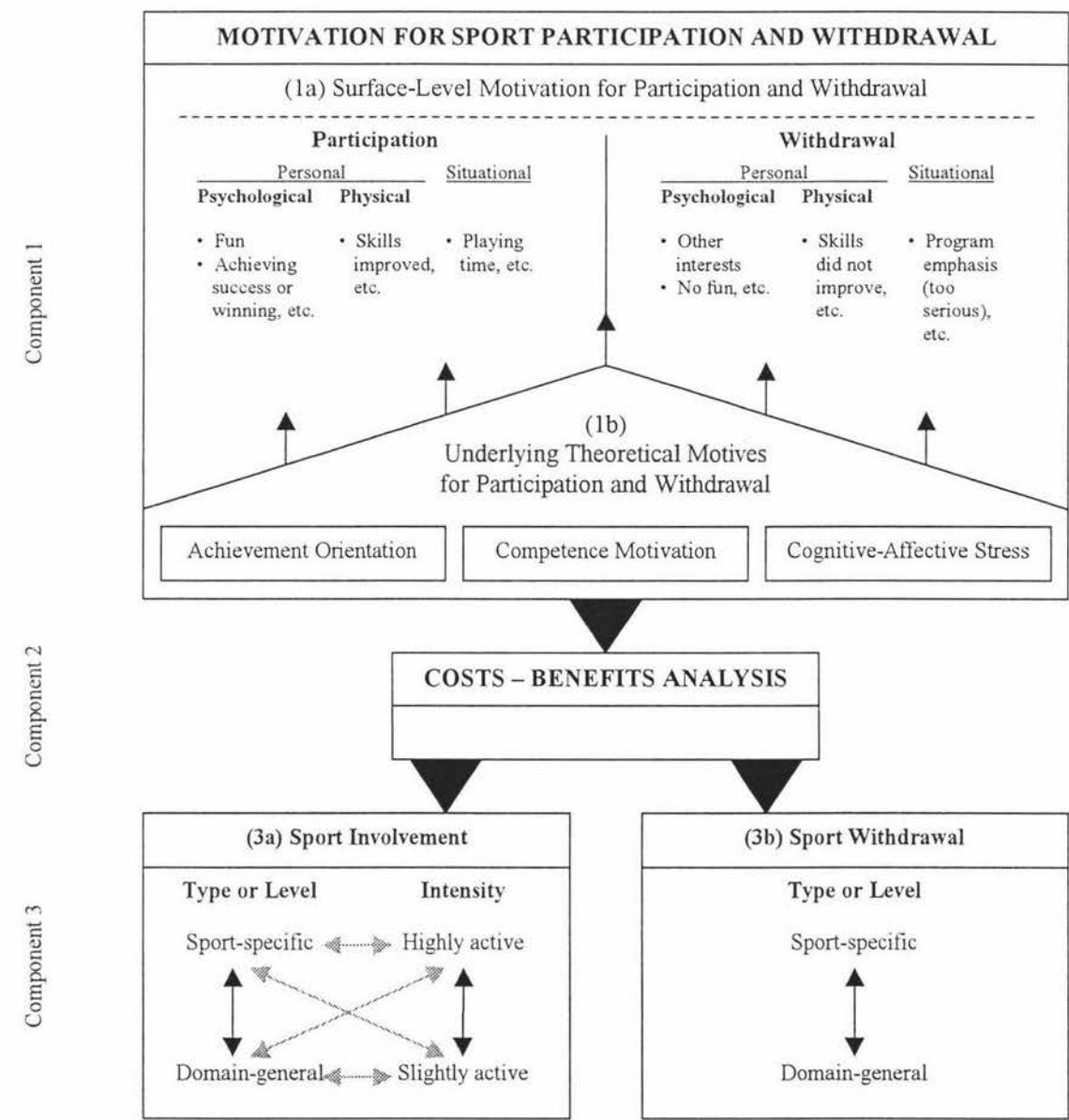
Figure 2. **An integrated motivational model of youth sport participation and withdrawal.** From Gould and Petlichkoff (1988).

However, decisions about sporting involvement are not a simple costs-benefits analysis. Comparisons are made against two standards. The first standard is the individual's internal level of what he or she considers to be good or bad. If the outcome of costs-

benefits analysis is above the standard then it is satisfying and pleasant, whereas if the outcome is below the standard then it is unsatisfying and unpleasant (Smith, 1986).

In conjunction with the first standard, a second standard operates that determines persistence in the sporting activity. Individuals consider the outcomes of cost-benefit analyses that they perform on other activities, both sporting and non-sporting. Therefore, individuals will make a decision based on the outcomes that are thought to exist in alternative activities, including non-participation. If the outcomes of alternative activities are above the comparison level of current sporting involvement and a choice has to be made, then the individual will cease his or current sporting involvement in favour of the alternative activities. In this case, both options may be above the first standard – that is, they are both satisfying and pleasant – but the alternative has more perceived benefits, less costs or both, than the option of persisting with the current sporting activity.

Smith (1986) states that the more similar the outcomes of the two options are, the more conflict will exist. If both outcomes are above the comparison level then approach-approach conflict is experienced, whereas if both of the outcomes are below the comparison level the avoidance-avoidance conflict will eventuate. Burnout occurs when there are increased stress-induced costs.

Leading on from the second component, the third component depicts the implications of sport involvement and withdrawal. The sport involvement dimension comprises two factors: type or level, and intensity. The type or level is a continuum from sport-specific involvement – that is, participating in one sport or program – to domain general – participating in all available sports and programmes. The level of intensity ranges from highly active, for example, a high performance athlete, training several hours a day, seven days a week, to slightly active, for example, an individual who plays once a week but does not train. Evidence suggests that motives for participation change with the level of intensity (for example, Klint & Weiss, 1986).

The second dimension, sport withdrawal, is conceptualised as a continuum from sport specific, that is, an individual withdraws from one sport or programme, to domain general, where an individual withdraws from all sports and programmes. Research

suggests that most withdrawal tends to be sport specific rather than domain general (for example, Gould et al., 1985), that is, the majority of children do not drop out of sport altogether, but transfer to another sport or programme. This will be explored more in the next section.

Petlichkoff (1988) has been the only researcher to use the cost-benefit framework in his or her work. Empirical evidence of the cost-benefit framework was present in that there was a significant relationship between the measure of the costs and benefits of participation and the participation categories – starters, nonstarters, survivors, dropouts and cuttees. From this, Petlichkoff (1988) concluded that persistence and withdrawal is not a simple rewards minus costs decision, however, it was also found that perceived ability had the greatest influence on sport persistence.

Dropping out of Sport

Care has been taken not to use the term dropout casually in this review. The conclusions of some research (for example, Orlick, 1974; Sapp & Haubenstricker, 1978) have been based upon the assumption that an individual who has dropped out from the sport under investigation had also dropped out of all sport involvement. This may be an inaccurate description of sporting withdrawal (Dishman, 1986; Weiss & Petlichkoff). In Gould et al.'s (1985) study, 68% of former swimmers had participated in another sport since stopping competitive swimming, while 80% intended participating in sport during the following year. Likewise, the majority of ex-gymnasts, in the research conducted by Klint and Weiss (1986), continued their participation in sport through other programmes. Therefore, the individuals who still continue their sporting participation should be regarded as sporting transfers, while dropout should be reserved for those individuals who cease participation in sport altogether

Dropping out of a sport should not necessarily be conceived to be a negative event, rather, it is the natural end of sporting involvement (Klint & Weiss, 1986). Also, these authors found that ex-gymnastics thought that their gymnastic experience helped them in their subsequent sporting involvement through enhancing their self-confidence. The sport also developed independence, self-discipline, the ability to deal with success and failure, and goal setting skills.

Moreover, as Weiss and Petlichkoff (1989) point out individuals do not have the time to do everything they would like to. Children are naturally exposed to a wide range of scholastic and extracurricular activities. The purpose of which is to contribute to a child's overall development. However, as individuals develop, they can no longer devote the quantity and quality of time that is necessary to stay actively involved in each activity.

In summary, the social analytical investigations have produced three mutually inclusive frameworks for the study of participation/discontinuation motivation. However, as a few of the descriptive findings and theories have identified, participation/discontinuation motives do not form in a vacuum. As a consequence, rather than explore the theoretical

basis of participation/discontinuation in isolation, the present study focuses on the relationship between participation/discontinuation motivation and the behaviours of significant others. Therefore, before exploring the literature pertaining to the behaviours of specific significant others, this introduction will proceed with an overview of socialisation.

Sport Socialisation

Socialisation has been studied by researchers in the fields of psychology, sociology and anthropology (Greendorfer, 1992). A consequence of this is that differing definitions and methodologies have been employed in the three disciplines. Even so, Coakley (1993) states that, in general:

> socialization has been conceptualized as a dual process of interaction and development through which human beings learn (1) who they are and how they are connected to the social worlds in which they live, and (2) the orientations used as a basis for individual behavior and group life in those worlds (p. 571).

In sport, researchers (for example, Kenyon & McPherson, 1973, 1974) have tried to explain aspects of sport involvement. However, Greendorfer (1992) has lamented that interest in sport socialisation has not extended past the 1970s. To date, investigators have attempted to explain the degree to which individuals became involved in sport (frequency, duration and, intensity); the kind of involvement they have (actual versus vicarious); the type of involvement they pursue (affective, behavioural or cognitive); and the form of involvement (sport, physical activity, exercise dance, or play).

Significant contributions to sport socialisation were made by Kenyon & McPherson (1973), who conceptualised socialisation into sport, and Loy and Ingham (1973) who discussed sport socialisation through play, games, and sport. Although the distinction is somewhat artificial, researchers have tended to treat socialisation into sport and socialisation through sport separately. Essentially, researchers of socialisation into sport investigate how individuals become involved in physical activity (for example, Greendorfer, 1977; Greendorfer & Lewko, 1978; Seppänen, 1982; Weiss & Knoppers, 1982; Hasbrook, 1986), while researchers of socialisation through sport have studied the outcomes of the participation in physical activity (for example, Duquin, 1977). The remainder of this section review will be focused on socialisation into sport, as this is more pertinent to the present study. That is, the present study was focused on the influence of socialising agents on an individual's participation/discontinuation motivations rather than the outcomes of the sport involvement.

Research on socialisation into sport has been couched within the social learning paradigm (Kenyon & McPherson, 1973). This model (see Figure 3) has three independent factors that contribute to role learning: personal attributes, significant others, and socialisation situations. Much of the research that has utilised this paradigm has been focused on the role of significant others (for example, Greendorfer, 1977; Sage, 1980; Snyder & Spreitzer, 1973). Greendorfer (1977, p. 304-305) suggests that significant others "substantially influence the outcome of the socialization process because of their prestige and power to distribute love, rewards, and punishments – mechanisms for instilling and confirming values, normative behavior, and sanctions".
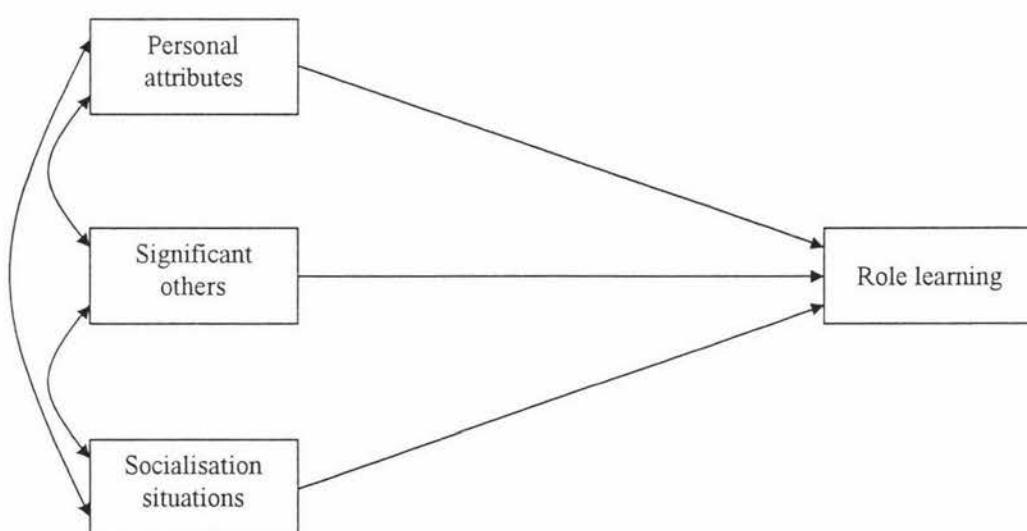
Figure 3. **The three elements of the socialisation process.** From Kenyon and McPherson (1973).

In Kenyon and McPherson's (1973) postulated social role-social system two-stage block-recursive model for sport socialisation a greater number of variables were included. In particular, four categories of significant others were identified: family, school, peers, and the community (see Figure 4). During childhood, athletes rely most heavily on evaluative feedback from significant adults in their lives, that is, parents and coaches. However, evidence suggests that in early adolescence young athletes tend to shift their reference group away from the family unit towards peers, coaches and others (Greendorfer, 1977, 1987; Rosenberg, 1979). It appears that parents arouse an initial interest in sport, most of the time by acting as role models but peers and significant

others in institutions, such as schools or sports groups, influence sport participation decisions during adolescence (McPherson, 1981, McPherson & Brown, 1988, Seppänen, 1982). Nevertheless, peers, parents, coaches and teachers all contribute to the provision of a positive environment in which the adolescent can enjoy his or her sport participation (Smith, 1979; Yamaguchi, 1984). As the present research investigates the behaviours of parents and coaches, this review will focus on these socialising agents. However, before doing so, the case of the sporting female and the subject of socialisation across the life cycle are discussed.
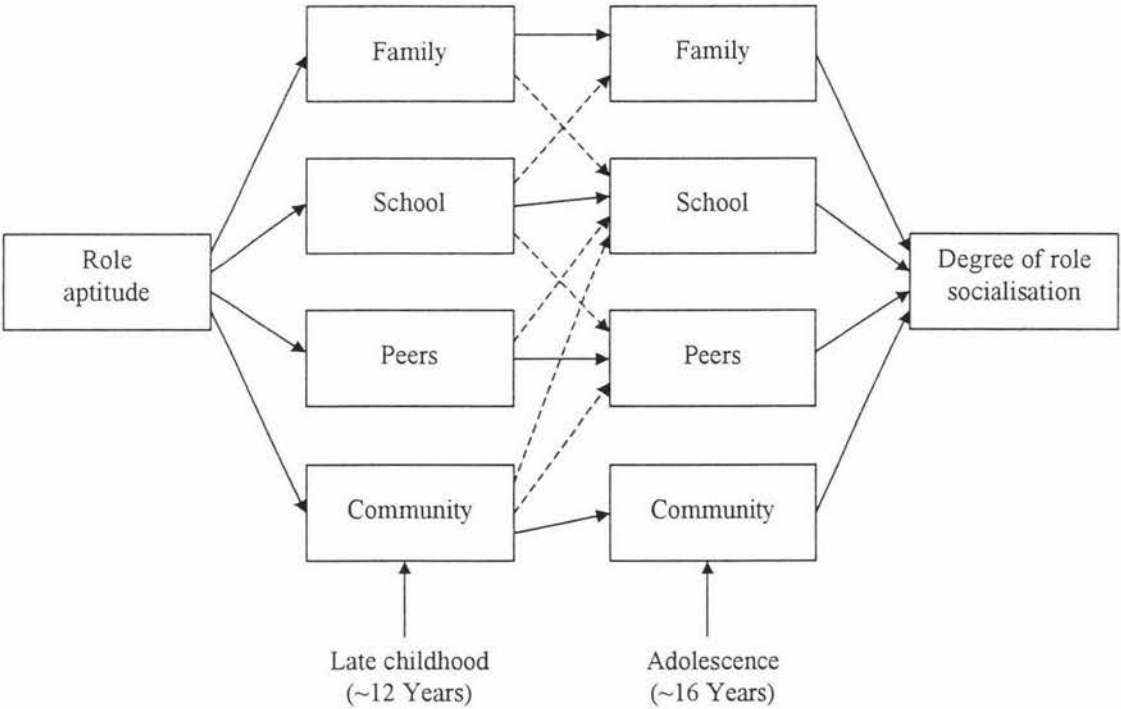
Figure 4. **Postulated social role-social system two-stage block-recursive model for sport socialisation.** From Kenyon and McPherson (1973).

The Sporting Female

Traditionally, sport has been viewed as a male pastime, however, since the 1970s the single largest change in sport has been the increase in female participation (Coakley, 1994). This author attributes the rise in female involvement in sport to factors that include new opportunities, government legislation, the women's movement, the health

and fitness movement and increased media coverage of females in sport. As a consequence, the socialisation of females into sport is a pertinent area of study.

Greendorfer (1992) states that male and female socialisation into sport is similar, however, she does identify two exceptions. Firstly, a female athlete is not likely to be the first child born, rather, she is more likely to be the middle or the youngest child in the family. Secondly, the school is not likely to be a major socialising agent into sport participation, that is, teachers and coaches in the scholastic environment tend to reinforce her performance and develop skills that she has learned elsewhere. Furthermore, both her parents tend to be actively involved in sport.

Nevertheless, the evidence remains equivocal about who influences the female athlete during adolescence. Higginson (1985) found that the socialising agent shifted from parents around age 13 to teachers and coaches when she went to junior high school. The teacher/coach influence was maintained through junior high school and senior high school. Greendorfer (1977) also found teachers and coaches to be salient influences, however, Greendorfer (1979) showed that peers were a significant influence, as they are throughout the life cycle, while in Greendorfer's (1987) study, peers, brothers and fathers were the most important influences.

The inconsistency of these findings may be due to the social class background of the female adolescents in the respective studies (Greendorfer, 1992). In Hasbrook, Greendorfer and McMullan's (1981) study, athletes and non-athletes differed significantly in social class as determined by their father's occupation. Specifically, female athletes were over-represented in the high social class group, while female non-athletes were over-represented in the low social class group.

Socialisation Across the Life Cycle

Early socialisation of children into sport can lead to involvement in sport and physical activity throughout the life cycle. Hasbrook & Mingesz (1987) interviewed ten physically active and ten sedentary adults in the 60 to 70 age group. The results showed that those adults who were socialised into sport as children were all still involved in

sport or physical activity, while the majority of those who were not socialised into sport at an early age led a sedentary lifestyle. Interestingly, those women who were physically active reported that personal attributes, that is, perceived competence and motivation, were more salient factors in the socialisation process than the influence of significant others or socialisation situations. Such a finding may be attributed to the stronger sex-role stereotypes of the time when females were discouraged from participation in a wide variety of sports and physical activities.

In addition, Greendorfer and Blinde (1985) studied retirement from intercollegiate sport. These authors found that retirement was not a termination of sporting interests but a gradual transition towards other sports and other levels of competition. In the study, 75% of athletes who had retired were still competing in sport at some level and the majority were still interested in their sport. Greendorfer and Blinde (1985) report that athletes did not experience adjustment difficulties and the process was similar for both men and women.

In summary, peers, parents, coaches and teachers are important socialising agents for sport participants. The present study investigates the influences of two of these socialising agents: parents and coaches. This introduction will proceed by reviewing the influence of parents, firstly within the context of the family and, secondly, by examining the affect of parental behaviours on their sporting offspring. This will be followed by discussing the influence of coaches, firstly in the sport leadership setting and, secondly through considering the literature pertaining to the affect of coaching behaviours on athletes.

Parents

The family unit is the main socialising agency of a child during their infancy years (Giddens, 1991). As a result, researchers have tended to focus on the role of parents, as well as other family members, in the socialisation of children into sport (for example, Greendorfer, 1987; Greendorfer & Lewko, 1978; Lewko & Ewing, 1980; Snyder & Spreitzer, 1973; Weiss & Knoppers, 1982). The effects of individual members of the family are usually studied separately in order to reduce any suppressing effect when the family is analysed as a whole (Greendorfer, 1987; Greendorfer & Lewko, 1978). A common finding is that fathers are the dominant sport socialisation agents within the family unit and parents have a greater effect on participation behaviours than do siblings (Greendorfer, 1987; Greendorfer & Lewko, 1978; Lewko & Ewing, 1980). Nevertheless, other family members have been found to have significantly influenced sport participation. In Snyder and Spreitzer's (1973) study, the same-sexed parent had more influence on children's participation behaviour than the opposite-sexed parent did.

Even though Greendorfer & Lewko (1978) found that mothers and siblings were not significant sport socialising agents, other studies have found to the contrary (for example, Greendorfer, 1987; Lewko & Ewing, 1980). Mothers, brothers and sisters have all been shown to be sport socialising agents. However, these family members tend to have a greater effect on the participation behaviour of females rather than males.

In a study that found little parental influence, Weiss and Knoppers (1982) showed that brothers were the only socialising agents of their sample of female volleyball players and that this socialisation occurred during childhood and college years. However, the authors attribute these findings to the homogeneity of the sample and to the statistical methods used in the analysis.

The socio-economic status of parents has been hypothesised to have an effect on children's sport participation (Greendorfer, 1978; Hasbrook, 1986; Sage, 1980). Greendorfer (1978) found that children who participated in team sports tended to come from lower class backgrounds, in comparison to children from upper class families who tended to participate in individual sports. Nevertheless, socio-economic status was not related to the type of reference group influence. Sex differences existed in Hasbrook's

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(1986) study, where females with lower class backgrounds participated in sport to a lesser extent than females from upper class backgrounds. However, this distinction was not evident amongst their male counterparts. Sage (1980) found that socio-economic status was weakly correlated with the expectations of parents, encouragement from parents, and the time spent participating with their children.

There is evidence to suggest that socialisation into sport is not unidirectional in nature, rather reciprocal socialisation occurs between the child and parents (Snyder & Purdy, 1982). Data from this study showed that although parents were responsible for initiating the sport involvement of their child, the parents learnt more about the sport and became more involved as a consequence of their child's involvement. Hence, the socialisation pattern was occurring in reverse.

Parental Behaviours

As parental involvement in youth sport programmes is increasingly being recognised as desirable and essential (Hopper & Jefferies, 1990; Ryan, 1988, Stewart, 1994), it is important to understand how behaviours exhibited by parents affect the socialisation process. In Snyder & Spreitzer's (1973) study a positive association was shown to exist between parental encouragement and most indicators of sport involvement, that is, behavioural, affective, and cognitive involvement. Sex differences were found in Gupta's (1987) study where parents encouraged their daughters to participate in sports to a greater degree than their sons. This finding may be attributable to females entering into the sport environment later than males, as well as the greater number of barriers to entry to some sports that females face.

Although parental encouragement is highly desirable (Isaacs, 1981), parental reactions that are uniformly positive or non-contingent have been negatively associated with high generalised expectancies (Scanlan & Lewthwaite, 1985). This finding is similar to that of Horn (1985), where reinforcement and non-reinforcement coaching behaviours negatively contributed to players' perceptions of competence. It could be that the parents in Scanlan & Lewthwaite's (1985) study did not view their sons as very competent wrestlers and so provided support and non-contingent reinforcement.

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In the literature on parental behaviour, the distinction between praise and encouragement has been highlighted as being particularly important (Wood & Abernethy, 1991b). Praise incorporates an evaluative judgement, whereas encouragement is non-contingent. Up until the age of about 15, children prefer to receive more praise than older children do (Pety, Kelly, & Kafafy, 1984). Beyond the age of 15, the motives behind parental praise begin to be questioned by children. In addition, at all ages, Pety et al. (1984) found that males preferred praise more than females.

Reflected appraisal is a form of overt or covert behaviour that can be displayed by a parent that reflects the ability of the athlete (Wood & Abernethy, 1989). This kind of behaviour is particularly pertinent to children who base their perceptions of their own ability on the behaviours of other individuals. Children identify subtle behavioural cues in significant others that reflect pride or disappointment in them. Therefore, if the reflected appraisal is disappointment, children will perceive that they have low levels of ability.

Psychological pressure exerted by parents can have a negative effect on a child's self esteem (McElroy, 1982). Pressure can eventuate when the parents and child have conflicting perceptions of the child's performance. When the child's performance levels are above or below what the parents expect, the child may be pressured into attempting to meet the expectations of his or her parents. Failure to meet the expected standard may result in the child suffering psychological consequences, such as being rejected by his or her parents and a subsequent loss of self esteem.

The results of Scanlan and Lewthwaite's (1988) study are consistent with the work of McElroy (1982). These authors found boys with higher levels of stress also possessed higher baseline stress and higher levels of competitive trait anxiety, lower performance expectancies prior to their matches, and worried more frequently about failure. Scanlan and Lewthwaite (1988) concluded that pressure from parents, as well as from coaches, might contribute to the higher levels of stress experienced by these children. Additionally, in Hellstedt's (1990) study, a strong relationship was present between parental pressure and negative athlete reaction.

McGuire and Cook (1983) found the existence of a relationship between pressure exerted by significant others and the decisions of children to participate in sport programmes. Specifically, those athletes who perceived that the decision to participate were entirely their own had fewer thoughts about quitting and rated their skill and ability levels higher than those who perceived their decision to participate was influenced by significant others.

Thornton (1991) argues that excessive parental pressure can result in athlete burnout. The development of young athletes tends to plateau around the ages of 12 to 14. However, parents may not recognise this and continue to drive their children to train harder. At this point, an athlete has two alternatives: continue to excel or find an escape route. Pain and injury tends to become the most viable escape route. This pain and injury tends to be a psychological manifestation rather than physical damage.

Parental behaviours can also contribute to the reduction of stress in the young athlete. Cohen and Wills (1985) developed the buffering hypothesis, which postulates that a perceived positive parental relationship can moderate the relationship between the source of the stress and the athlete's reactions to the stress. When stress levels are low, there are no differences between athletes who have low or high support, whereas when stress levels are high, there will be differences between the two groups of athletes. This indicates that parental support is most beneficial when athletes are under stress.

Van Yperen (1995) has provided empirical support for the buffering hypothesis using pre-season and post-season surveys on the same sample of male pupils at a soccer school in Amsterdam. Low performance players with low parental support perceived more interpersonal stress than low performance players who received high parental support. In the first time period, low support/high performance players unexpectedly perceived less interpersonal stress than high support/high performance players did. However, this difference disappeared in the second time period.

Wood and Abernethy (1991a) studied a broad range of parental behaviours. A sample of swimmers from Australia and America were asked to rate 24 parental behaviours according to their perceptions of (1) the desirability of each behaviour, (2) the frequency that the behaviour occurred to them, (3) the frequency that the behaviour occurred to

others, (4) the amount of pressure the behaviour induced, and (5) the amount of support the behaviour provided. Non-elite swimmers from Australia rated recognition, provision, interest, understanding, and personal sacrifices as highly desirable parental behaviours. In addition, the elite swimmers from both America and Australia felt that freedom of choice, with regard to participation decisions, was highly desirable.

In regard to parental behaviours of low desirability, non-elite swimmers rated criticism, pushing, too much interest/involvement, self-worth judgements, and controlling behaviours as the least desirable. Elite swimmers also did not find it desirable when their parents compared them to other swimmers.

Behaviours rated as most and least desirable were strongly related to support and pressure. A strong positive relationship was found between the desirability and the supportiveness of parental behaviours. The association was strongest in Australian and American elite swimmers ($r = 0.95$) and the weakest in non-elite Australian swimmers ($r = 0.89$). A strong negative relationship existed between desirability and pressure of parental behaviours. This was strongest in American swimmers ($r = -0.95$), followed by the Australian elite swimmers ($r = -0.91$) and the Australian non-elite swimmers ($r = -0.77$).

All of the parental behaviours that the swimmers indicated had occurred with high frequency to them and other swimmers were also ranked as being highly desirable. Furthermore, all of the parental behaviours that had occurred with low frequency to the swimmers and others were also ranked as being least desirable. The same pattern was evident in non-elite swimmers, with one exception. Freedom of choice, which corresponds with leaving participation decisions to the swimmer, was ranked low on the frequency to others scale. This seems to indicate that non-elite swimmers perceive that the parents of other swimmers make decisions about participation for their children. While this would be considered to be undesirable for elite swimmers, non-elite swimmers did not rate freedom of choice as being of high or low desirability.

Although Wood and Abernethy (1991a) found minimal sex and cultural differences, further differences between elite and non-elite swimmers were present in the study. Elite swimmers perceived pressure from a broader range of parental behaviours. In

addition to criticism and pushing behaviours, elite swimmers perceived pressure from self-worth judgements made by their parents and when there was too much interest/involvement from parents. Elite swimmers also perceived their parents to engage in more supportive behaviours than non-elite swimmers.

In summary, the behaviours that parents exhibit have an important affect on the psychological development of their offspring. These behaviours can have a positive or negative effect on the young individual. The present study incorporates Wood and Abernethy's (1991a) parental behaviour items to measure adolescent cricketers' perceptions of their parents' behaviour.

Coaches

It is generally regarded that coaches are an important influence in the lives of athletes (Smith & Smoll, 1996). A child's participation is effected by the interpersonal behaviours coaches exhibit and by the philosophy that the coaches have developed. Central to a coach's philosophy is the emphasis that is placed on winning versus player development (Martens, 1987). The coach has perhaps become more important in the lives of some athletes in recent years, sometimes fulfilling the role of substitute parent for athletes of single-parent families (Smith & Smoll, 1996).

Studies of coaches have tended to mirror the work conducted in the general field of leadership. The study of coaches' leadership qualities has moved from traits that make up effective coaches (for example, Hendry, 1969), to looking at styles and behaviours that form the basis of a successful coach (for example, Lenk, 1977; Penman, Hastad, & Cords, 1974; Pratt & Eitzen, 1989). In keeping with general leadership theories, current researchers in the sport setting recognise situational influences in their formation of theories (Chelladurai, 1993).

Three major models of leadership have been developed in the sport setting: Normative Model of Decision Styles in Coaching (Chelladurai & Haggerty, 1978), Multidimensional Model of Leadership (Chelladurai & Carron, 1978), and the Mediational Model of Leadership (Smoll, Smith, Curtis, & Hunt, 1978).

In the present study the Mediational Model of Leadership and its measurement instrument, the Coaching Behaviour Assessment System (CBAS; Smith, Smoll, & Hunt, 1977a, 1977b), was used. The instrument was chosen for two main reasons. Firstly, it focuses on a broad range of coaching behaviours. Secondly, it was developed for, and has been extensively used in, the youth setting. Accordingly, the remainder of this section will focus on the Mediational Model of Leadership and the CBAS.

The Mediational Model of Leadership

The genesis of the Mediational Model of Leadership was a three-component conceptualisation used by Smith, Smoll, and Curtis (1978) in their study into how the attitudes and behaviours of their players are affected by the behaviours of their coaches. In Smith et al.'s (1978) model, players' evaluative reactions of their coaches' behaviours are mediated by their perception and recall of the coaching behaviours. These authors suggest that the cognitive and affective processes involved in the mediational level are not solely influenced by the behaviours exhibited by the coach. These processes will also be dependent upon factors such as the players' own evaluative reactions, personality and attitude variables, as well as the players' previous sporting experiences.

Smoll et al. (1978) expanded on Smith et al.'s (1978) oversimplified unidirectional model, to include the factors that Smith et al. (1978) mention as likely influences on the model. An additional link between players' evaluative reactions and player perception and recall was included. This signifies the notion that a players' evaluative reactions of coaching behaviours is likely to influence later evaluations of coaching behaviours. Also, a link was included between players' evaluative reactions and coaching behaviours. This link, representing the coach's perception of players' attitudes, acknowledges that players' evaluative reactions that are perceived by the coach are likely to affect subsequent coaching behaviours.

This core model is influenced by three groups of factors, namely coach individual difference variables, player individual difference variables, and situational variables (see Figure 5). The variables that the three factors are composed of were later expanded into more comprehensive lists of variables (Smoll & Smith, 1989). Coach individual difference variables include: coaching goals/motives, behavioural intentions, instrumentalities, perceived coaching norms and role conception, inferred player motives, self-monitoring, and sex. Player individual difference motives include age, sex, perceived coaching norms, valence of coach behaviours, sport-specific achievement motives, competitive trait anxiety, general self-esteem, and athletic self-esteem. Situational factors include nature of the sport, level of competition, practice versus

games, previous success/failure, present game/practice outcomes, and intrateam attraction.
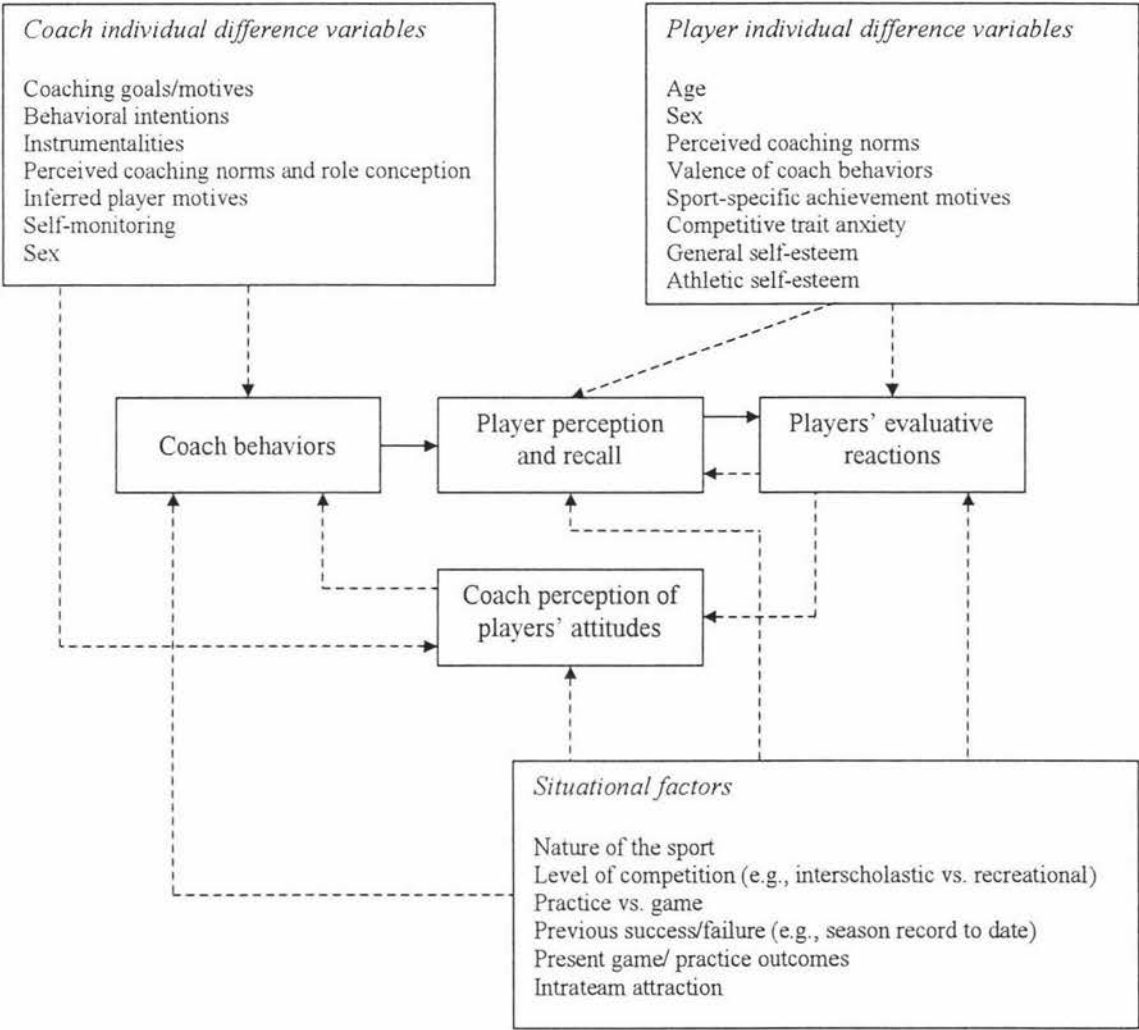
Figure 5. **A model of adult leadership behaviours in sport and hypothesised relationships among situational, cognitive, behavioural, and individual difference variables.** From Smoll and Smith (1989).

The Coaching Behaviour Assessment System

The Coaching Behaviour Assessment System (CBAS) was developed by Smith, Smoll, & Hunt (1977a, 1977b) to measure overt coaching behaviours. Initially, observers tape-recorded soccer coaches during practices and games before transcribing the coaches' behaviours (Smith et al, 1977a). These behaviours were content analysed with respect to concepts from social learning theory to develop a set of behavioural categories on which

the present system is based. Use of the system for coding the behaviours of basketball, football and baseball coaches indicated that the categories were sufficiently broad enough to cover a wide range of coaching behaviours and individual differences between coaches could be easily discerned.

The CBAS distinguishes between reactive and spontaneous behaviours (Smith et al., 1977a). A reactive behaviour is when the coach immediately responds to behaviour exhibited by his or her team, or individuals within that team. A spontaneous behaviour is when no behaviour precedes that of the coach. As can be seen in Table 1, the CBAS incorporates eight reactive behaviours and four spontaneous behaviours. The reactive behaviours are grouped into coaching behaviours directed at desirable performance, mistakes/errors and misbehaviours. The spontaneous behaviours are divided between game-related and game-irrelevant behaviours.

As the CBAS was an instrument designed to assist in the observation of coaches, studies were conducted to ascertain the reliability of the instrument and the effectiveness of the observer training programme (Smith et al., 1977a). The first study involved the use of videotaped sequences of behaviours. The 12 behaviours were verbally described to the 31 trainees before being shown each behaviour, a total of four times, in a random order. When the scoring of the trainees was compared with those of the authors, the number of errors made by the trainees ranged from zero to five. The average agreement between the authors and trainees was 97.8%.

To assess the reliability of the trainees over time, the videotape procedure was repeated one week after the initial session. In the period between, the trainees were not given feedback on how they performed in the initial session. Consistency in scoring over the two sessions ranged from 87.5% to 100%, with the mean consistency score being 96.4%.

Two subsequent studies tested the inter-observer reliability in field settings. In the first of these studies, five independent observers simultaneously coded the behaviours of a female Little League Baseball coach during a six-inning game. Over the 84 minutes, the observers coded an average of 250 behaviours. Frequencies for each observer across the

Table 1

Response categories of the Coaching Behaviour Assessment System

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Class I. Reactive Behaviors

Responses to desirable performance

Reinforcement	A positive, rewarding reaction (verbal or nonverbal) to a good play or good effort
Nonreinforcement	Failure to respond to a good performance

Responses to mistakes

Mistake-Contingent Encouragement	Encouragement given to a player following a mistake
Mistake-Contingent Technical Instruction	Instructing or demonstrating to a player how to correct a mistake he/she has made
Punishment	A negative reaction, verbal or nonverbal, following a mistake
Punitive Technical Instruction	Technical instruction following a mistake which is given in a punitive or hostile manner
Ignoring Mistakes	Failure to respond to a player mistake

Response to misbehavior

Keeping control	Reactions intended to restore or maintain order among team members

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Class II. Spontaneous Behaviors

Game-related

General Technical Instruction	Spontaneous instruction in the techniques and strategies of the sport (not following a mistake)
General Encouragement	Spontaneous encouragement which does not follow a mistake
Organization	Administrative behavior which sets the stage for play by assigning duties, responsibilities, positions, etc.

Game-irrelevant

General communication	Interactions with players unrelated to the game

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Note. From Smoll and Smith (1989, p. 1529).

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12 CBAS behaviours were calculated. Correlation coefficients between each pair of observers for the frequencies of the 12 CBAS behaviours ranged from .77 to .99, with an average coefficient of .88.

In the second study, 19 trained observers and two of the authors coded the behaviours of a male Little League Baseball coach. The two authors consulted with each other during the observation in order to provide a basis for accurately assessing the coding of the observers. The trained observers coded independently. As in the previous study, the coding of each pair of trained observers were correlated. The mean correlation coefficient was .88. The range of reliability coefficients between the coding of the trained observers and that of the two authors was .62 to .98, with a mean coefficient of .86. This suggests that trained observers are able to code behaviours with a high degree of accuracy using the CBAS.

Factor analysis has been performed on the 12 CBAS behaviours to establish the underlying behavioural dimensions (Smoll et al., 1978; Smith, Zane, Smoll, & Coppell, 1983). Smoll et al. (1978) found the underlying structure differed between the observed behaviours and the coaching behaviours perceived by the players. Four factors emerged from the observed behaviours: punitiveness (punitive behaviours and General Encouragement versus Keeping Control and Organisational behaviours), supportiveness (Reinforcement and Mistake-Contingent Encouragement), instructiveness (instructional behaviours versus General Encouragement and General Communication) and responsiveness (Nonreinforcement and Ignoring Mistakes). However, three factors emerged from the player-perceived behaviours: supportiveness and spontaneity (General Encouragement, General Technical Instruction, Reinforcement, and Keeping Control), punitiveness (punitive behaviours and the Nonreinforcement of positive behaviours) and correctiveness (behaviours responding to mistakes with technical instruction rather than Ignoring Mistakes).

Similarly, Smith et al. (1983) found supporting and punitive behaviours to be independent rather than opposite ends of the same dimension. In contrast to previous studies, however, punitive and instructional behaviours loaded on the same dimension. The third factor consisted of two behaviours not oriented towards the game (Keeping Control and General Communication).

Although the dimensions underlying the CBAS appear unstable, supportive and instructional behaviours tend to be grouped together on separate factors. Smith and Smoll (1996) suggest that these dimensions may be equivalent to the task and relationship orientations incorporated in many leadership theories (for example, Fiedler, 1967; Hersey & Blanchard, 1977; Chelladurai & Carron, 1978).

Coaching Behaviours

Consistent with the postulations of the aforementioned leadership theories, studies using the CBAS have shown that coaching behaviours are influenced by situational variables (Horn, 1985; Chaumeton & Duda, 1988; Smith, Aicinena, & Steffen, 1994). In Horn's (1985) study of female softball players, significant differences were found in the coaches' behaviours during practices and games. Coaches gave more reinforcement and exhibited lower levels of nonreinforcement during games. In practices, coaches provided more technical or corrective instruction and had a lower tendency to ignore skill errors.

Similarly, Wandzilak, Ansorge, and Potter (1988) report that in their study of youth soccer coaches, the behaviours of the coaches differed between practices and games. A comparison of the rate at which behaviours were exhibited revealed that during games coaches engaged in encouragement/hustle behaviours and gave positive remarks more often than they did in practices. In practices they gave higher levels of instruction/organisation.

Chaumeton and Duda (1988) divided the CBAS behaviours into "desirable" and "undesirable" behaviours. In competition, the high school coaches exhibited less desirable behaviours than junior high school coaches did. Also, high school coaches tended to engage in more desirable and less undesirable behaviours in practice than they did in competition. These findings may reflect the greater emphasis on competition at high school as compared to junior high school.

Smith et al. (1994) reported that the coaching behaviours of teachers differed depending on whether they were taking a curricular physical education class or an extracurricular

sport team. In both instances basketball was the sport being taught or coached. There were no differences in the rates at which all behaviours were exhibited, however, there were significant differences in the frequency with which some of the behaviours were provided. During practices, teachers provided significantly higher rates of Punitive Mistake-Contingent Technical Instruction, General Technical Instruction, and General Encouragement, whereas during lessons, teachers exhibited more behaviours directed towards Keeping Control.

Researchers have found that coaching behaviours differ towards high- and low-expectancy athletes (Horn, 1984; Solomon, Striegel, Eliot, Heon, Maas, & Wayda, 1996). Both studies were concerned with examining the self-fulfilling prophecy theory proposed by Rosenthal & Jacobson (1968) and adapted to motor skills and sport settings by Martinek (1981). This theory postulates that instructors form expectations concerning the potential of an athlete that is conveyed in terms of what level of achievement is expected of him or her. If the instructor consistently exhibits behaviours that are consistent with his or her expectations of the athlete then the athlete's performance and behaviour may conform to those expectations. According to this theory, high-expectancy athletes would receive more positive and effective instruction.

Horn (1984) found that coaching behaviours differed between high- and low-expectancy softball players in game situations but not in practices. Contrary to the self-fulfilling prophecy, low-expectancy players were, in general, given more technical instruction and feedback, as well as in mistake-contingent situations. Following a successful performance, low-expectancy players were more likely to receive a greater level of reinforcement as compared to high-expectancy athletes whose successful performances were largely ignored. These differences appear to be deliberately employed to provide more information and encouragement to those less skilful players in order to enhance performance and motivation in game situations.

Solomon et al. (1996) studied eight coaches and the athletes in their two Division I college basketball teams. In practice, head coaches provided high-expectancy players with greater levels of positive reinforcement, mistake-contingent technical instruction, general technical instruction, and general encouragement. No differences in coaching behaviour towards high- and low-expectancy athletes were exhibited by the assistant

coaches. This finding may be due to assistant coaches being more likely to spend longer working with the low-expectancy players.

In a study that did not use the CBAS as a measure of coaching behaviour, Sinclair and Vealey (1990) found that high-expectancy field hockey players received more feedback from their coaches than did low-expectancy players. Also, the feedback to high-expectancy players tended to be more specific and evaluative, and less prescriptive.

The equivocalness of these findings may be explained by the philosophical orientation of the coaches and the sport programmes. The development of low-expectancy athletes is likely to suffer with increasing competitiveness of coaches or programmes. That is, as the competition level increases, coaches may dedicate more time and effort towards the development of the more skilful team members.

In addition to the differences between head and assistant coaches, differences have been found in the coaching behaviour of males and females. In her study of high school soccer coaches, Millard (1996) found that male coaches were involved in keeping control and general technical instruction significantly more than female coaches were. Moreover, female coaches provided more general encouragement to their players. These findings may support the conclusion of a previous study by Dubois (1990), who suggested that males place a greater emphasis on winning than females.

Researchers have investigated the association between coaching behaviours and psychological constructs such as goal orientation (Chaumeton & Duda, 1988), perceived competence (Horn, 1985), and self-esteem (Smith et al., 1983). Chaumeton and Duda (1988) studied the goal orientations of coaches and players at three scholastic levels: elementary school, junior high and high school. High school coaches ranked the importance of creating a winning team significantly higher than coaches in elementary and junior high schools. Parallel to this, winning became more important to players at higher levels of competition. However, players and coaches at all three scholastic levels rated the importance of skill development similarly. These authors assume that the social reinforcements provided by the coach have an impact on the social situation and therefore the goal orientations of the athletes.

Predictors of gains in perceived competence were studied by Horn (1985) in her research with 12 to 15 year old female softball players. Coaching behaviours that contributed significantly to gains in perceived competence were reinforcement, nonreinforcement, punishment, and behaviours that included technical instruction. It is interesting to note that reinforcement, nonreinforcement, and behaviours that included technical instruction contributed negatively to gains in perceived competence, whereas Punishment contributed positively. Horn (1985) suggests that while performance-contingent reinforcement is likely to contribute to perceived competence, the use of praise for motivational or disciplinary reasons will not promote gains in perceived competence. Given that, by definition, nonreinforcement is when a coach fails to respond to a successful performance, it is clearly not performance-contingent and, therefore, unlikely to contribute to perceived competence. The positive contribution to perceived competence made by punishment could be attributed to the criticised player gaining a greater awareness of his or her ability, as compared with a colleague who makes the same mistake and receives neutral feedback.

Smith et al. (1983) found self-esteem to be negatively correlated to general technical instruction but unrelated to all other CBAS behaviours. The authors suggest two explanations of this occurrence. Firstly, players who were low in self-esteem may also have low levels of ability, therefore needing higher levels of technical instruction. Secondly, the technical instruction may increase the players' awareness of the discrepancy between their current performance standards and those standards that are desired.

As well as self-esteem, Smith et al. (1983) studied the association between coaching behaviours and players' attitudes towards basketball, the solidarity of the teams they were in, and their respective coaches. Mistake-contingent technical instruction was positively associated with players' liking of basketball, whereas, keeping control and general encouragement were both negatively related to players' liking of basketball. The authors suggest that players may perceive that keeping control and general encouragement are aversive behaviours and begin to dislike the situations in which they occur. In addition, players may view high levels of general encouragement as being directed toward players that the coach perceives to be less interested in the sport.

General technical instruction was negatively related to players' attitudes toward the solidarity of their respective teams (Smith et al., 1983). Two possible explanations for this were given. Firstly, high levels of general technical instruction may be aversive to intra-team attraction. Secondly, coaches may adopt a more instructive style if the players in the team do not like each other.

Finally, players' attitudes toward the coach were positively associated with mistake-contingent technical instruction and negatively related to punishment (Smith et al., 1983). It appears players prefer a coach who provides instruction or a demonstration on how to correct a mistake, rather than a negative reaction.

Another pertinent issue is the lack of self-awareness amongst coaches. The relationship between the coaches' perceptions of their own behaviours and the perceptions of trained observers has been found to be weak and statistically insignificant (Smoll & Smith, 1989). The only behaviour that the coaches perceived accurately was punishment. Smoll and Smith (1989) have concluded "that coaches have limited awareness of how frequently they engage in other forms of behaviour, and that the athletes are more accurate perceivers of actual coach behaviours" (p. 1530). This view is partially supported by Wandzilak et al.'s (1988) study, which reported that coaches' perceptions of themselves regarding encourage/hustle and instruction/organisation behaviours differed significantly with what was observed.

In summary, like parental behaviours, coaching behaviours can have a positive or negative effect on an athlete. The present study used the CBAS to measure adolescent cricketers' perceptions of the behaviours of their coaches. In conjunction with parental behaviours, cricketers perceptions' of their coaches' behaviours were obtained to investigate the association between these behaviours and participation/discontinuation motivation. The literature that pertains most closely with this focus is presented in the following section.

Participation/Discontinuation Motivation and Sport Socialisation

There has been little research on the relationship between participation/discontinuation motivation and sport socialisation despite the fact that, as separate fields of study, they have been extensively researched. Given the salience of both these topics, some sociologists (for example, Brustad, 1992; Lewko & Greedorfer, 1988) have called for research to be conducted upon socialising influences on the process of participation and discontinuation. Despite this, little work has been undertaken (Weiss & Chaumeton, 1992).

Conceptualisation of Participation/Discontinuation Motivation and Sport Socialisation

As a guide for the present research, a modified version of Wann's (1997) model of sport participation was used (see Figure 6). Although the components of the present model are similar to those of Wann's (1997) model, several structural alterations were made. Firstly, the component that deals with socialisation into sport was shifted to better reflect the fact that the behaviours of socialisation agents influence the child. In Wann's (1997) model, the genetic make-up of the parent is conceptualised to influence the genetic make-up of the child, which in turn influences the socialisation into sport via socialising agents. While the first link is well justified by the literature, the second is not as clear as what is presently proposed.

Secondly, the model in the present study suggests that the behaviours of the socialising agents influence the child. Where this differs from Wann's (1997) model is the acceptance that the child is more than a biological organism, and possesses cognitive, affective and motivational processes, as well as a unique perception of the world he or she is living in.
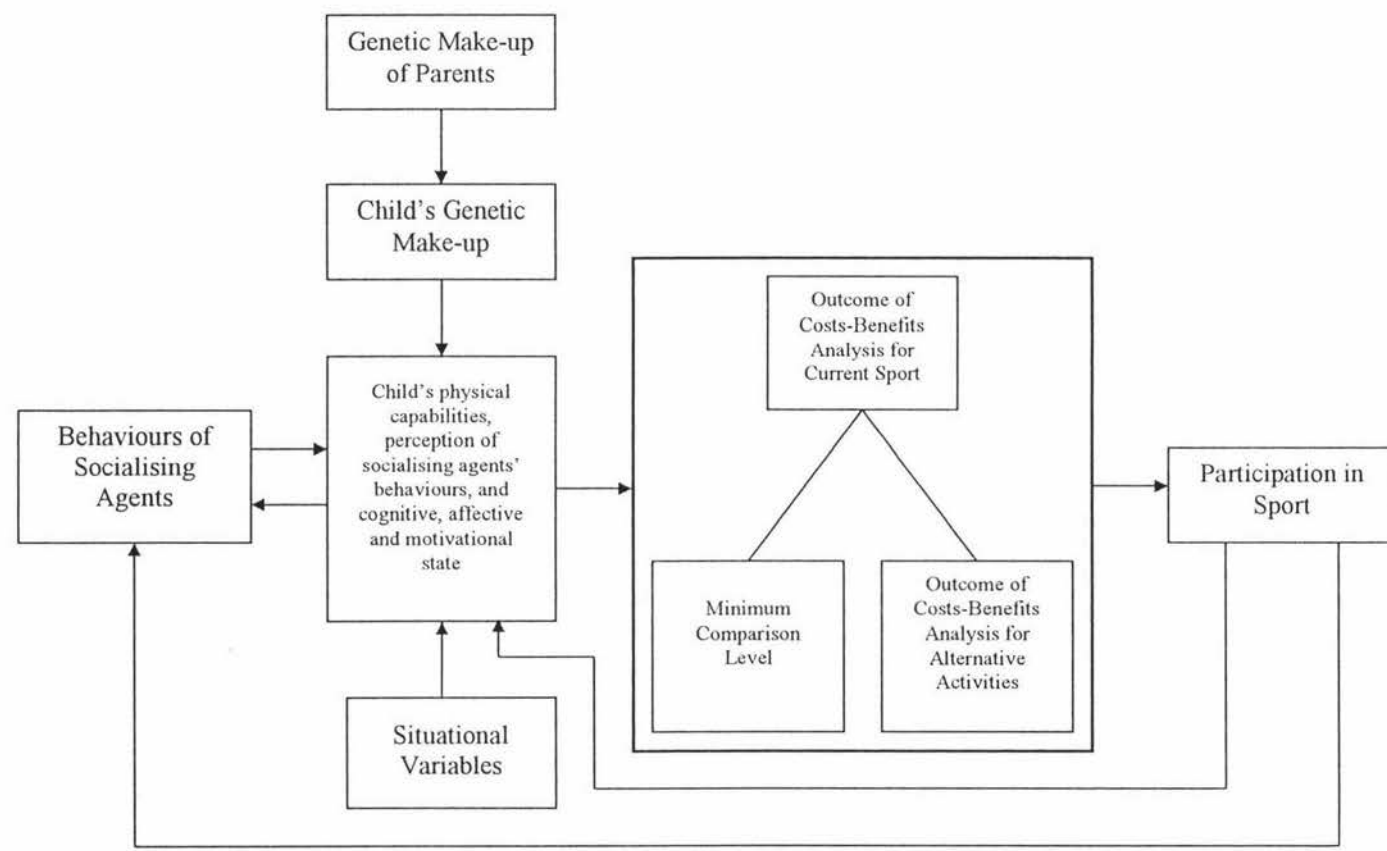
Figure 6. General conceptualisation of the relationship between participation/discontinuation motivation and sport socialisation.

Thirdly, situational variables are an addition to the model. This acknowledges that the environment in which the child lives and the sporting environment in which they participate influence the child. Other models, such as the social learning paradigm (Kenyon & McPherson, 1973) and the Mediational Model of Leadership (Smoll & Smith, 1989), suggest that situation variables are salient in sport psychosocial models. In addition, evidence from the research of, for example, Buonamano et al. (1995) into participation motivation and Sage's (1980) research in the sport socialisation field, supports the inclusion of situational variables into a model of participation/ discontinuation motivation and socialisation.

Fourthly, an additional link is included between the child and the socialising agents. This represents the research of Snyder and Purdy (1982), which suggested that sport socialisation was not unidirectional in nature. Rather, parents become socialised into sport as well, through their involvement with their son or daughter.

Fifthly, the components that deal with the child's motivation to engage in, or discontinue from playing sport were revised to better reflect the two comparison levels that Gould & Petlichkoff (1988) include in the costs-benefits component of their integrated model of youth sport participation and withdrawal. That is, when a child decides to persist in, or withdrawal from a sport, a cost-benefits evaluation of their current participation and perceptions of future participation is undertaken. The outcome of this analysis is compared against the child's minimum standard of satisfaction and the outcomes of cost-benefits analyses performed on other activities. On this basis, the child will decide whether to continue participation at the current level, withdrawal from that level or compete in a different sport, or withdrawal from sport altogether.

Lastly, the participation in sport component is linked back to the child and the behaviours of the socialising agents. This reflects the dynamic nature of the conceptualisation. The child constantly re-evaluates his or her sport participation and the nature and outcomes of the participation itself is likely to have an influence on the behaviours of socialising agents.

In relation to the Conceptualisation of Participation/Discontinuation Motivation and Sport Socialisation, the present study focused on the component that deals with the

child. Specifically, it was designed to access adolescents' perceptions of the behaviours of two pertinent socialising agents – parents and coaches – as well as considering their participation/discontinuation motivations. The present study also considers the effect of situational variables on these perceptions and motivations.

Prior Research into Participation/Discontinuation Motivation and Sport Socialisation

Notable exceptions, to the lack of research between participation/discontinuation motivation and sport socialisation, have been Brown (1985) and the follow up study of Brown, Frankel, and Fennel (1989). In Brown's (1985) study, female adolescent swimmers who continued to participate received a greater level of encouragement from significant others than those who withdrew from the sport. Participants received increasing levels of support as they continued their swimming, whereas those who withdrew perceived a static or decreasing level of support over time. Also, the significant others of the swimmers who continued their participation placed more value on swimming, in comparison to alternative activities, as a form of social participation.

Brown et al. (1989) found the correlations between the contexts of physical activity and the influence of parents and peers to be reasonably low, ranging from 0.13 to 0.34. Generally, the behaviours of fathers were more highly correlated to participation than the behaviours of mothers. An exception was the association between parental participation and the participation levels of the respondents, where the participation levels of mothers, as opposed to fathers, were more closely related to the participation levels of their daughters. In this situation, mothers are being active role models for their daughters.

At school the encouragement and support of male peers was, on the whole, more important than the same behaviours from female peers. In community sport, however, there was an association between participation and the encouragement, support and perceptions of appropriateness of female peers, but the associations between the same variables for male peers were small and non-significant. Such a finding may represent different peer groups in community sport, which is outside of the school environment. Female swimmers are likely to choose friends who swim themselves, or at least support their participation, at a time when gender norms are most seriously violated.

Participation/Discontinuation and Socialisation Research in New Zealand

Despite extensive research being undertaken overseas, little research has been conducted in New Zealand on either participation/discontinuation motivation or sport socialisation. Marketing Diagnostics and Development Limited (1991) surveyed secondary school students and their parents, focusing on the participation in and attitudes towards sport and physical activity. Hodge and Zaharopoulos (1991) studied the participation/discontinuation motives of secondary school first-team and fourth-form team players in the sports of netball and rugby.

However, the validity of both studies can be called into question because of the inadequacy of the conceptual framework that the respective authors have employed. The questions pertaining to participation/discontinuation motivation were poorly designed. In the study of Marketing Diagnostics and Development Limited (1991), sports participants had to respond to nine motives for playing sport on a dichotomous scale. Whereas, in Hodge and Zaharopoulos' (1991) study, only seven motives were provided to rugby and netball participants, with the option of stating other motives in an open-ended question. A similar format was used with those respondents who had stopped playing rugby or netball, with 19 forced-choice questions followed by the ambivalent open-ended question asking for additional motives.

Nevertheless, interviews of netball and rugby players produced some insight into the socialisation of these players into sport (Hodge & Zaharopoulos, 1991). Peers were highly influential in players' decisions regarding participation. Older brothers and sisters, as well as parents, were also important. It was more important to fathers that their sons continue playing rugby, than it was to either parent that their daughters continue with netball. It was also found that rugby players found it difficult to give up playing because of pressure exerted by friends, teachers, teammates and coaches to continue their participation.

In summary, little work has been undertaken to explore the relationship between participation/discontinuation motivation and sport socialisation. On the whole, researchers have attempted to ascertain how participants differ from dropouts with respect to the influences of socialising agents. Additionally, research that has been

conducted in these two areas of study in New Zealand is limited. Therefore, there is a need to investigate further the association between participation/discontinuation and sport socialisation. Before the focus of the present research is presented, however, the study is placed in context by the following discussion of the nature of cricket.

The Nature of Cricket

As rugby union is the country's traditional winter code, cricket has been New Zealand's summer game for well over a century. At the forefront of the game is the New Zealand cricket team, who are amongst an elite band of teams who play test cricket. New Zealanders are participants in sport as much as they are enthusiastic followers. Cricketing triumphs and tragedies are being played out on the beach and in the backyard, summer after summer.

Success at the international level is partially dependent on the strength of the development programmes at the youth level. Adolescents in New Zealand generally play for their schools in regional interscholastic competition. They also have an opportunity to push for higher honours in trials to select age-group regional representative teams. On the national scale, all schools have an opportunity to enter the national secondary schools competitions, namely the Gillette Cup for boys and the Yoplait Cup for girls. In these competitions any school can enter, and a knock-out format is used at the beginning of each school year to determine the top four teams in each Cup. The finals take on a round-robin format and are played in December of the same year.

The major difference between cricket and other sports is that cricket takes a long time to play. The length of the game has ramifications for people who play the game today. When cricket was developed, players had much more spare time to spend playing cricket. However, in today's society, many people have less time to partake in sport and physical activities. This has led to the creation of several versions of the game. Most of these changes have been made to address the issue of the length of time the game takes to play. However, with an increasingly busy society, these changes are not sufficient for some people.

At the international level two versions of the game exist. The traditional test matches, in which each side bats twice and there are no restrictions on the length of an innings, are played over five days. Whereas, the shortened version one-day game is played over

approximately eight hours, with each team having one 50-over-innings each. An over is made up of six bowls.

The first international Test Match was played in 1878 in Melbourne, Australia (Peebles, 1986). It was played between Australia and the visiting English professional team. Although this was not a full strength English team, the two games they played against Australia are regarded as the first two official Test Matches. New Zealand's entry into test cricket came in the 1929-30 season against England in Christchurch (Brittenden, 1986).

As for the one-day game, the first international match occurred almost as an after-thought (Hutchins, 1991). In 1971, rain washed out the third test match between Australia and England in Melbourne. As a result, a one-day match was hurriedly arranged. The first match New Zealand played in was in 1973. This game, against Pakistan, was played in Christchurch, with New Zealand winning by 22 runs.

Adolescent cricket is usually played on a weekly basis on either Saturday morning or afternoon. The morning games are generally played under similar rules as one-day cricket but the lengths of the innings are shortened to 25 overs per team. The afternoon games are normally played by senior teams under the rules of one-day cricket – that is, 50 overs per team.

During the game, all 22 players do not participate at once. At any one time, 11 players of one team will be involved in bowling and fielding, while only two members of the opposition will be involved. These two players will be involved as batsmen. As a result, nine players will not be directly involved in the game. This can lead to boredom, especially in younger players with shorter attention spans and less knowledge of the game.

In summary, cricket has traditionally been New Zealand's summer sport. Over the last 30 years, various changes have been made to the game, at some levels, to allow for the continued participation of a greater number of people. In light of this, the present research investigated the participation/discontinuation motivations of adolescent cricketers in New Zealand. Also, it considered the influence that socialising agents had

on these motivations. These objectives will be clarified in the section on the research focus, which follows.

The Research Focus

The aim of the present study is to investigate the relationship between adolescent cricketers' participation/discontinuation motives and the behaviours of parents and coaches. Special emphasis is placed on the nexus between primary/intermediate schools and secondary schools, as well as between secondary schools and clubs. Specifically, the research objectives are:

- To investigate the influence of parental and coaching behaviours on the participation/discontinuation motives of young cricketers.

- To determine why young New Zealanders participate in or discontinue from participating in cricket.

- To establish whether participation / discontinuation motivations differ by geographic location, the socio-economic rating of the school, single-sex versus co-educational schooling, the year the participant is in at school, sex, ethnicity, and single sex teams versus mixed sex teams.

Methodology

Participants

The participants in the study consisted of 858 school students and recent school leavers living in New Zealand. A sampling method was devised based on six factors: geographic location, school year level, sex, school type (single sex or coeducational), and socio-economic status of the participants' parents.

Four school year-levels, representing two interfaces, were selected in the sample: year eight, year nine, year 13, and recent school leavers. Year eight and year nine represent the transition from Primary or Intermediate School to Secondary School. Typically, children have their twelfth birthday in year eight and their thirteenth birthday in year nine. Year thirteen and school leavers represent the transition between secondary school and post-secondary school. School leavers were defined as those who attended secondary school in the year preceding the study, but who did not attend secondary school in the year of the study.

These interfaces were chosen as they have been identified by New Zealand Cricket as periods when cricketers discontinue playing cricket (Alec Astle, Personal Communication, 1999). Therefore, the primary focus of the present study is to explore the participation motives of students in years eight, nine and 13, and the discontinuation motives of those in year nine and school leavers. In the present study, cricket participants were defined as those who had played cricket in the year of the study, while those who discontinued were defined as individuals who played cricket in the year preceding the study but who had not played in the year of the study.

The participants in the study who were still at school during the study were samples from three geographical locations. New Zealand has six major cricket associations: Northern Districts, Auckland, Central Districts, Wellington, Canterbury and Otago (see Figure 7). Auckland, Central Districts and Canterbury were the three associations

included in the study. Auckland represents a large population in a relatively small geographic area. Central Districts represents a large geographical area that includes minor associations in both of the main islands of New Zealand. Canterbury represents an association in the South Island of New Zealand.
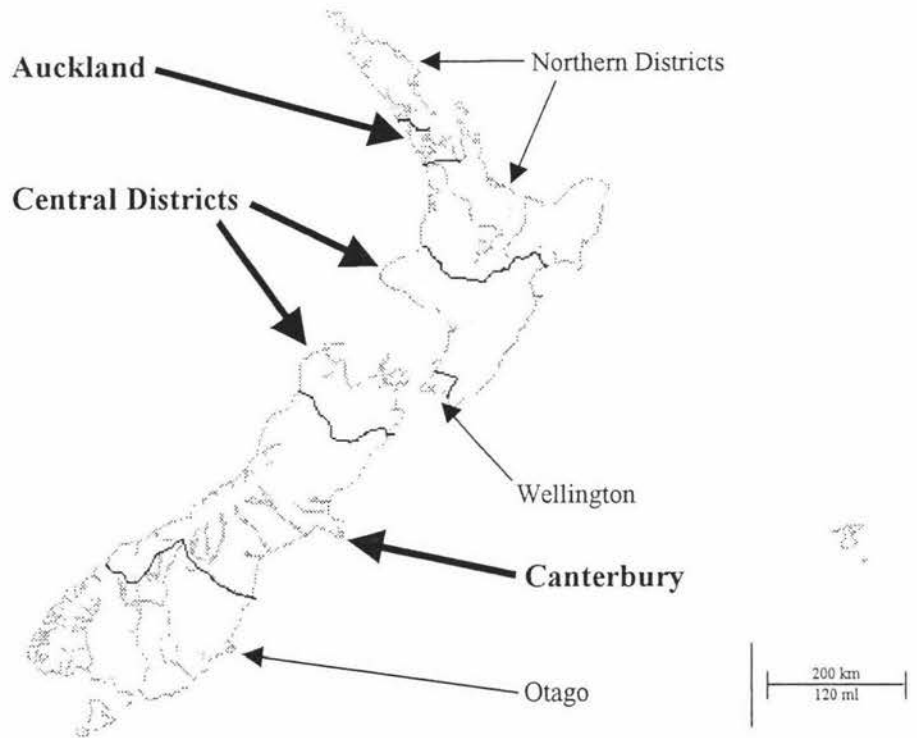
Figure 7. **The major cricket associations in New Zealand with emphasis on the associations that were included in the present study.**

Ninety secondary schools from the three major associations were selected through a systematic, stratified random sample. These schools represent 42.7% of all secondary schools identified as being within the boundaries of the Auckland, Central Districts and Canterbury cricket associations. The sample contained 30 schools from each of the three regions. Within each region, schools were randomly selected until an even number of schools were obtained with high, medium and low decile ratings. Decile ratings (10% groupings) are the indicators used to measure "the extent to which schools draw from low socio-economic communities" (Ministry of Education, 1999, p. 7). It "is based on Census data for households with school-aged children in each school's catchment area, together with ethnic data from the school's roll returns" (p. 7).

In the present study, a decile rating from one to three was considered to be low, from four to seven was medium, and from eight to ten was high. Unfortunately, in the Canterbury association, only three secondary schools were found which had low decile ratings. Therefore, in this region 13 schools with medium decile ratings and 14 schools with high decile ratings were selected.

The 90 secondary schools were sent a letter from the researcher that outlined the nature of the study and requested their assistance with the administration of the surveys. In addition, a letter from New Zealand Cricket was included which endorsed the study. They were also asked to identify the primary or intermediate schools that contributed the majority of students to their year nine intake. A follow up letter was sent four weeks after the initial letter to those schools that had not responded to the first letter. This letter differed from the first in terms of detailing how the survey would be administered. In the first letter the intention of the researcher to visit all participating schools was expressed, however, the second letter requested that a staff member in each school administer the questionnaire. This alteration was made as some schools had stated that it would be more convenient for them if they administered the survey. Resource constraints of the researcher were also an issue.

A systematic random sample of 30 intermediate and primary schools was selected from the responses of the secondary schools that had agreed to participate in the study. Both intermediate and primary schools were included in the sample, as they both teach year eight students. Ten schools were selected in each geographical region. Within each region, schools were selected based on decile rating. This resulted in a sample of nine low decile schools, 13 medium decile schools and eight high decile schools.

The 30 schools were sent letters from the researcher. These letters were similar to the follow up letters that were sent to secondary schools. Once again, a letter of endorsement from New Zealand Cricket accompanied the letter. Four weeks after this letter was sent, a follow up letter was sent to those schools that had not responded to the first letter.

Of the 90 secondary schools approached to be involved in the current study, 45 agreed to participate, 11 declined to participate, 12 stated that cricket was not a sport that was

played at their schools, and 22 schools did not reply to the researcher. However, of the 45 secondary schools that agreed to participate, only 30 administered and returned the questionnaires. With regard to the 30 primary/intermediate schools approached, 13 agreed to participate, five declined to be involved, 2 indicated that cricket was not played at their school, and the remaining 10 schools did not reply to the researcher. Nevertheless, only seven of the 13 primary/intermediate schools that agreed to participate administered and returned the questionnaires. Therefore, taking the 14 schools who did not offer cricket as a sport into account, the overall response rate of administered and returned questionnaires from all schools was 34.9%.

In total, 858 questionnaires were completed and returned. Seven hundred and eighteen were completed by people who played cricket this year, while those who discontinued playing cricket this year completed the remaining 140 questionnaires. The respondents were predominantly male (80.7%), New Zealand European (81.0%) and went to schools with high decile ratings (65.4%). Other ethnic groups represented in the sample were New Zealand Maori (5.2%) and Pacific Islanders (3.7%). As New Zealand Maori's and Pacific Islanders made up around 14.5% and 5.6% of the population, respectively, at the time of the 1996 Census (Statistics New Zealand, 1998), these ethnic groups are under-represented in this sample.

New Zealand Cricket's (1998) figures reveal that 4.8% of those secondary school students who played cricket during the 1997/98 season were Maori, and 1.4% were Pacific Islanders. However, these figures were estimates and should be read with caution. Even so, it is suggested that the proportions of ethnic groupings in the sample fairly represent the proportions of the ethnic groups who play cricket in this age bracket.

More responses were received from the Auckland (39.6%) and Central District's (38.1%) regions than the Canterbury region (21.2%). With regard to the composition of the teams the players were members of, 85.9% of players indicated that they played in single sex teams. Only one player belonged to a mixed sex team at the year 13 level.

Despite the use of various methods to obtain an adequate sample of recent school leavers who stopped playing cricket once they had left school, only nine questionnaires

were completed and returned to the researcher. This means any conclusions based on this small sample are tenuous at best.

Measures

Four instruments were used in this study to measure participation motivation, discontinuation motivation, coaching behaviours and parental behaviours (see Appendix A). They are the Participation Motivation Questionnaire (PMQ; Gill, Gross & Huddleston, 1983), a self-developed discontinuation motivation questionnaire (DMQ), the Coaching Behaviour Assessment System (CBAS; Smith, Smoll & Hunt, 1977) and a parental behaviour questionnaire (PBQ; Wood & Abernethy, 1991). There were also items pertaining to the chances of the respondent playing cricket during the following season if various changes were made to the game. However, these items were not pertinent to the present study.

Two questionnaires were used in the present study, which represent combinations of the four instruments above. The CBAS and PBQ were included in both questionnaires. The PMQ was in the questionnaire that was administered to cricket players in years eight, nine and 13. The DMQ was in the questionnaire that was administered to year nine respondents and school leavers who had stopped playing cricket.

The PMQ (Gill et al., 1983) was included in the present study as it is the most widely utilised instrument for asking questions pertaining to why people participate in sport. Originally, respondents were asked to indicate the relevance to themselves of the 30 motives for participating on a three-point Likert scale. However, in the current study a five-point scale was chosen that was anchored by "Not at all important" and "Extremely important". Also, the word "sport" was changed to "cricket" in the instructions. This was reflected in the focus of the study on cricket and not sports in general.

The discontinuation motivation was developed in three steps. Firstly, a comprehensive list of reasons why athletes discontinue playing sport was drawn from the existing literature. These reasons were then synthesised into 36 motives for discontinuing participation in cricket. Secondly, the motives were independently reviewed by academics in the sport area and by cricket administrators. This resulted in a further item being included. Thirdly, the instrument was pilot tested, as part of the entire

questionnaire, to control for possible difficulties arising from wording and comprehension. No modifications were made as a result of this.

The pen-and-paper version of the CBAS (Smith et al., 1977) is a 12-item instrument that asks respondents how often their coaches exhibit 12 coaching behaviours. It was included in the present study as it deals with athletes' perceptions of their coaches behaviours and has been extensively used in the youth setting. For each of the behaviours, a description of the behaviour and an example were provided. Some of the examples were modified to make them relevant to cricket. Participants respond to each item on a 7-point scale with foils of never, hardly ever, seldom, sometimes, quite often, very often and almost always.

The parental behaviour questionnaire (Wood and Abernethy, 1991a) was used in the present study as it considers a wide range of parental behaviours that are pertinent to sport. These authors asked swimmers to rate 24 parental behaviours on a 5-point scale. The participants in Wood and Abernethy's (1991a) study were asked to indicate their perceptions of (a) the desirability of each behaviour, (b) the frequency the behaviour occurred to them, (c) the frequency the behaviour occurred to others, (d) the pressure that was induced by the behaviour and (e) the support the behaviour provided. This meant 120 questions were asked in total. As this would have made the questionnaire in the current study too long, participants were asked to indicate the frequency that the behaviour occurred to them. They did so on a 7-point scale that was identical to that used with the CBAS.

Procedure

The questionnaires were distributed by mail between 5 August 1999 and 17 September 1999. They were returned between 17 August 1999 and 10 November 1999. This time period approximately represents the period prior to the 1999/2000 cricket season starting. Some schools administered the questionnaire later than other schools as they wanted to administer them at their first cricket meetings prior to the new season.

Staff members of the respective schools administered the questionnaires. A letter and an instruction sheet for questionnaire administration were sent to the schools, along with the questionnaires (see Appendix B). The letter restated the purpose of the study and emphasised two important points. Firstly, that the questionnaires must go to the relevant groups of respondents. Secondly, that the questionnaires must be administered in a controlled environment. These points received elaboration in the Instructions for Administrators.

Once the respondents had completed the questionnaires, the administrators were asked to return the questionnaires in the postage-paid envelope that was provided by the researcher.

Analysis

Principal Components Analysis

Principal components analysis was used to examine the underlying structures of the Participation Motivation Questionnaire (PMQ), the discontinuation motivation questionnaire (DMQ), the Coaching Behaviour Assessment System (CBAS) and a parental behaviour questionnaire (PBQ). The appropriateness of the correlational matrix for principal components analysis was tested by the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. Standards for the total number of subjects in the sample and ratios between subjects, variables and expected components were also taken into consideration.

The KMO measure of sampling adequacy and Bartlett's test of sphericity (BS) indicate whether the variables being analysed can be reduced to a smaller number of components. The KMO measure of sampling adequacy is used as an alternative to BS, as Bartlett's test is oversensitive when the sample becomes too large (Hair, Anderson, Tatham, & Black, 1995). A statistically significant BS and a KMO value ≥ 0.5 represent minimum criterion of appropriateness for principal component analysis (Ferguson & Cox, 1993).

Although Hair et al. (1995) suggest that principal components analysis could be performed with 50 subjects, they recommend that over 100 subjects be used in the analysis. Kline (1994) argues that with samples of less than 100 subjects misleading results could be obtained. Guadagnoli & Velicer (1988) state that a minimum of 300 subjects are required for principal components analysis. However, these authors state that if four or more items have a loading of ≥ 0.6 on each of the emergent factors, then N becomes less important. Finally, Comrey (1978) advises that 200 subjects should be regarded as the absolute minimum.

In terms of the ratio of subjects to variables, ratios from 2:1 to 10:1 have been regularly proposed (Kline, 1993; Gorsuch, 1983; Comrey, 1978). Hair et al. (1995) suggest a minimum ratio of 5:1 and state that some authors argue for a ratio of 20:1. Also, ratios

of variables to expected components and subjects to expected components need to be considered. Cattell (1978) considers a ratio of three to six variables per expected component as a desirable minimum, with two variables per expected component, logically, being the absolute minimum. In the present research, a minimum ratio of three to six subjects per expected component was observed.

The latent root and scree tests criteria were used to establish the number of components to rotate. The latent root criterion says that components with eigenvalues greater than one should be extracted, as these components account for at least their own variance. Hair et al. (1995) state that this method of establishing the number of components to rotate is most accurate when there is between 20 and 50 variables in the measure. This is the case with three of the four measures used in the current study. The exception being the measure of coaching behaviour, which has 12 variables.

The scree test criterion (Cattell, 1966) involves plotting the eigenvalue for each component generated by the principal components analysis. The rationale behind this is that the first components extracted will possess more common variance and less unique variance than later extracted components (Hair et al., 1995). The last component extracted will be the one before the plotted line becomes approximately horizontal. Using the scree test, in conjunction with the eigenvalues greater than one rule, helps to avoid over specification of components. This approach was used in the present research.

Varimax rotation was employed to generate a solution of orthogonal components. Oblique rotational methods, although theoretically more realistic, were not considered as they are still subject to controversy due to their lack of development with respect to orthogonal methods (Hair et al., 1995). An additional problem with oblique rotational methods is that the researcher is required to specify the amount of correlation that is expected to exist between the components (Ferguson & Cox, 1993).

The varimax method of rotation was selected ahead of other orthogonal procedures, such as quartimax and equimax. Although quartimax rotation has proved to be quite successful in extracting interpretable solutions, there is a tendency for items to load highly on the first component. This is due to the analysis being focused on simplification of the rows in the component matrix. In contrast, the varimax procedure

focuses on the simplification of the columns in the component matrix. This is a more complicated procedure than quartimax, nevertheless, it tends to produce a clearer solution. The equimax method attempts to accomplish simplification of both rows and columns. However, equimax has failed to gain widespread acceptance and is not used often (Hair et al., 1995).

For an item to be included in a component a minimum loading of 0.5 was required. Hair et al. (1995) comment that research "has demonstrated that factor loadings have substantially larger standard errors than typical correlations; thus, factor loadings should be evaluated at considerably stricter levels." (p. 385). Kline (1994) suggests that a factor loading of 0.3 is sufficient, while Ferguson and Cox (1993) prefer a more stringent criterion of 0.4. Hair et al. regard a value of 0.3 to be the minimum level of acceptability, 0.4 to be more important and a value of 0.5 to be practically significant. Those items that did not meet the criterion of 0.5 were deleted.

Component scores were created for use in subsequent analysis by computing the mean score of each component. In addition, scores representing the combined components of each measure were created. These were labelled participation motivation, discontinuation motivation, coaching behaviours, and parental behaviours. To calculate these scores, the components that formed each measure were weighted according to the number of items in each component.

Cronbach (1951) alpha coefficients were also calculated to measure the internal consistency reliabilities of each component. Nunnally (1978) recommends that in "the early stages of research on predictor tests or hypothesised measures of a construct" (p. 245) an alpha value of 0.70 is a sufficient criterion for judging the reliability of a scale.

Correlations

Pearson product moment correlations were performed to establish the strength of the relationship between the participation/discontinuation components and the behavioural components of both the parents and coaches. In addition, correlational analyses were

completed on the scores for the measures and between the measures and the components of other measures.

Analyses of Variance

Multiple Analyses of Variance (MANOVA) were conducted on the components of the four measures and the following demographics: geographic location, decile rating, school type, year level, sex, ethnicity, sex in team, and participation status.

Pillai's criterion was selected as the criteria for accessing multivariate differences across the groups. Roy's greatest characteristic root is the most powerful statistic, nevertheless, it relies on the assumptions behind MANOVA being strictly met and each dependent measure representing a single dimension of effects. Wilks' lamda and Pillai's criterion are the most immune to violation of the assumptions. However, Pillai's criterion is more robust when "sample size decreases, unequal cell sizes appear, or homogeneity of covariances is violated" (Hair et al., 1995, p. 278).

Univariate Fs and post hoc Tamhane (1977) tests were used when the MANOVA indicated that there were significant differences across the groups. Univariate Fs identify the dependent variables that have significant differences on the independent variables. Tamhane (1977) tests were employed when there were more than two independent variables, to identify where statistically significant differences were present. Tamhane's (1977) test is based on the Student's t test. It is a conservative test that involves pairwise comparisons and is appropriate when the variances of the groups are unequal.

Results

This section is composed of four parts. In the first part, the correlations between participation/discontinuation motivation and coaching/parental behaviours are reported. Secondly, descriptive statistics are provided for the items in the four measures. Thirdly, the principal components analyses are given. Finally, the multivariate analyses of variance of the demographic variables on the components of the four measures are presented.

Correlational Analysis

The major finding of the present study was a moderate correlation between discontinuation motivation and coaching behaviours ($r = 0.42$, $p < 0.01$) (see Table 2). A weaker correlation was found between participation motivation and parental behaviours ($r = 0.39$, $p < 0.01$). In addition, there were relationships between discontinuation motivation and parental behaviours ($r = 0.34$, $p < 0.01$) and between participation motivation and. coaching behaviours ($r = 0.25$, $p < 0.01$).

Coaching behaviours were more strongly related to discontinuation motivation than participation motivation. The strongest correlation between participation motives and coaching behaviours was between the team/enjoyment motive and the supportive/instructional behaviours of the coach ($r = 0.32$, $p < 0.01$). There were negligible relationships between the participation motives and the two other coaching behaviours. In comparison, relationships were found between discontinuation motivation and all three coaching behaviours: supportive/instructional behaviours ($r = 0.32$, $p < 0.01$), punitive behaviours ($r = 0.28$, $p < 0.01$) and non-responsive behaviours ($r = 0.31$, $p < 0.01$).

Parental behaviours had a stronger relationship with participation motivation than discontinuation motivation. The strongest correlation between participation motivation and parental behaviours was between the achievement motive and achievement focus (r

Table 2

Pearson product moment correlations for participation/discontinuation motivation and coaching/parental behaviours

	Components of Participation Motivation					Participation Motivation	Discontinuation Motivation
	Team/Enjoyment	Achievement	Affiliation	Leisure/Catharsis	Skill/Fitness		
Coaching behaviours							
Supportive/Instructional	0.32**	0.21**	0.07	0.12**	0.20**	0.26**	0.32**
Punitive	-0.10**	0.02	0.07	0.01	-0.11**	-0.04	0.28**
Non-responsive	-0.09*	-0.06	-0.00	0.00	-0.08*	-0.07	0.31**
All coaching behaviours	0.28**	0.22**	0.10**	0.14**	0.15**	0.25**	0.42**
Parental behaviours							
Supportive	0.28**	0.18**	0.10**	0.13**	0.25**	0.26**	0.34**
Criticising	0.01	0.22**	0.21**	0.12**	0.06	0.15**	0.19*
Interest in Performance	0.26**	0.26**	0.22**	0.21**	0.28**	0.32**	0.24*
Achievement Focus	0.25**	0.37**	0.20**	0.18**	0.34**	0.35**	0.22*
All parental behaviours	0.30**	0.37**	0.26**	0.23**	0.34**	0.39**	0.34**

Note. $^*p < 0.05$, $^{**}p < 0.01$, two-tailed test

= 0.37, $p < 0.01$). Interest in performance and achievement focus behaviours were more closely related to participation motivation than discontinuation motivation, while supportive and criticising behaviours correlated more highly with discontinuation motivation.

When Pearson product moment correlational analyses were performed on each year level separately, stronger correlations were found at the year eight level between participation motivation and both coaching ($r = 0.37$, $p < 0.01$) and parental ($r = 0.49$, $p < 0.01$) behaviours. The relationship between participation motivation and coaching behaviours weakened at year nine ($r = 0.22$, $p < 0.01$) and year 13 ($r = 0.20$, $p < 0.01$). Similarly, the relationship between participation motivation and parental behaviours also decreased at year nine ($r = 0.36$, $p < 0.01$) and year 13 ($r = 0.34$, $p < 0.01$).

Ratings of Individual Participation/Discontinuation Motives

The participants in this study had many reasons for participating in or discontinuing from playing cricket. The ranking of participation motives are shown in Table 3. As can be seen in Appendix C, rankings of the top 10 motives for participation differed between sexes, year at school and ethnic groupings. The "I like to have fun" motive was ranked as most important by both sexes and all age and ethnic groupings. Males tended to rate skill ("I want to learn new skills", "I want to improve my skills") and competition ("I like to compete", "I like to do something I'm good at") motives more highly than females, who ranked team ("team spirit", "I like being on a team", "I like the teamwork") motives as the most important. Year eight and year nine players rated the motives for participation in a similar way. Nevertheless, year eight players tended to rate team motives more highly, while year nine players perceived skill-related motives to be more important. In the group of year 13 players, achievement ("I like to compete", "I like to do something I'm good at", "I like to win") motives became more prevalent and skill motives were ranked lower. With regard to ethnic grouping, there was little difference between how New Zealand European and New Zealand Maori players ranked the participation motives. However, players of Pacific Island ethnicity ranked team and fitness motives more highly than the former two groups.

The item that was most frequently highlighted as the most important reason for playing cricket was "I like to have fun". This item was circled by 28.6% of respondents. The next highest item was "I want to go on to a higher level", which was indicated by 7.7% of the cricketers.

As shown in Table 4, the main reasons why respondents discontinued playing cricket were orientated towards wanting to do other activities ("I wanted to do something else", "I wanted to play another sport"). However, these represent more the motives of year nine respondents than school leavers as the discontinuation motivation sample is largely composed of year nine respondents. The three most important reasons for school leavers

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to discontinue playing cricket were related to ability ("I thought I would play poorly"), boredom ("It was boring") and time ("The games took too long to play").

Table 3

Means and standard deviations of the participation motives

Item	M	SD
I like to have fun	4.58	0.69
I want to learn new skills	4.16	0.93
I want to be physically fit	4.15	0.98
I want to improve my skills	4.12	0.90
I like to do something I'm good at	4.10	0.99
I like being on a team	4.10	0.96
I like the teamwork	4.08	0.94
I like the challenge	4.05	0.92
I like the excitement	4.04	0.95
I like the action	4.04	0.97
I like the team spirit	4.02	0.98
I like to compete	4.02	1.03
I want to go on to a higher level	3.98	1.13
I like to have something to do	3.91	1.08
I like to get exercise	3.87	1.05
I want to stay in shape	3.85	1.15
I like to meet new friends	3.78	1.07
I like to win	3.70	1.13
I want to be with my friends	3.66	1.07
I like to get out of the house	3.51	1.25
I like to feel important	3.44	1.26
I like to use the equipment or facilities	3.38	1.23
I like the rewards	3.34	1.27
I want to gain status or recognition	3.33	1.21
I like the coaches or instructors	3.12	1.22
I like to travel	3.03	1.36
I want to release tension	2.81	1.25
My parents or close friends want me to play	2.80	1.35
I want to be popular	2.72	1.24
I want to get rid of energy	2.63	1.22

Of the top 11 reasons for discontinuing playing cricket, three reasons related to coaches ("I was not supported by my coach", "My coach didn't encourage me", "I didn't like the coach"), while another three reasons were concerned with the respondents' ability and lack of involvement in the game ("I didn't get to bowl or bat often", "I wasn't successful at playing cricket", "I was just a fielder"). Also, females rated poor practice/playing facilities as the tenth highest motive for discontinuation in cricket, while males rated it as the thirty-fifth highest motive for stopping playing cricket.

The item "I didn't like the coach" was highlighted most frequently as the most important reason for stopping playing cricket, with a response of 3.6%. However, only 25.0% of the responses to this question were valid.

Table 4

Means and standard deviations of the discontinuation motives

Item	M	SD
I wanted to play another sport	2.95	1.62
I wanted to do something else	2.93	1.54
I didn't get to bowl or bat often	2.54	1.61
It was boring	2.51	1.45
It wasn't fun	2.48	1.47
I did not get along with other players in my team	2.42	1.49
I was not supported by my coach	2.42	1.34
I wasn't successful at playing cricket	2.37	1.36
My coach didn't encourage me	2.29	1.38
I was just a fielder	2.23	1.20
I didn't like the coach	2.22	1.41
I didn't have the time to play	2.21	1.34
The games took too long too play	2.19	1.36
I thought I would play poorly	2.16	1.55
I wasn't good at playing cricket	2.14	1.41
I was injured and could not play	2.10	1.43
I was not accepted by the other players in the team	2.10	1.45
I didn't feel important	2.05	1.28
My coach didn't accept me	2.04	1.33
I was not encouraged by my parents to play	2.02	1.42
I was not asked to play again	2.02	1.37
The practice/playing facilities were poor	1.98	1.27
I had to work	1.98	1.15
My parents didn't support me playing cricket	1.97	1.36
I didn't know where to join a team	1.96	1.34
I didn't like the pressure	1.95	1.23
The practices took up too much time	1.95	1.27
I was sick and could not play	1.94	1.29
It was too competitive	1.92	1.14
I didn't like playing with the hard ball	1.91	1.37
My parents didn't want me to play	1.90	1.34
My best friends stopped playing cricket	1.87	1.22
I thought I might get hurt	1.83	1.25
I worried about playing cricket	1.83	1.19
I could not afford the equipment to play	1.75	1.19
I could not afford the subscription	1.70	1.13
I didn't like how long I had to travel	1.64	1.09

Principal Components Analysis

Principal components analysis was performed to examine the underlying structures of the four instruments. Separate principal components analyses with varimax rotations to generate orthogonal components were performed on the participation motivation (PMQ), discontinuation motivation (DMQ), coaching behaviour (CBAS) and parental behaviour (PBQ) items. Eigenvalues of 1.0 or greater, in conjunction with the scree test, were used as the criteria for the number of components to rotate (Hair, Anderson, Tatham, & Black, 1995).

Basic assumptions as to the underlying relationship were tested with the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, Bartlett's test of sphericity (BS), absolute minimum number of subjects, subjects to variables ratio, variables to expected component ratio, and the subjects to expected components ratio. All four instruments satisfied the requirements of the KMO and BS. The KMO measure of sampling adequacy values for the PMQ, DMQ, CBAS and PBQ were 0.93, 0.83, 0.82, and 0.86, respectively. The values obtained from the BS were statistically significant ($p < 0.01$) for all four instruments. Although all measures had enough subjects to meet Kline's (1994) minimum of 100 subjects for principal components analysis, the DMQ, with only 140 subjects, did not meet Comrey's minimum of 200 subjects. All instruments had adequate subjects to variables ratios, variables to expected components ratios, and subjects to expected components ratios.

A minimum loading of 0.5 was required for an item to be included in a component. Those items that did not meet this criterion were deleted. The items of the components of the respective measures are presented in decreasing order of loading magnitude.

Five interpretable components, which explained 55.0% of the variance, were identified from the participation motivation questionnaire items (see Table 5). The five components were labelled team/enjoyment, achievement, affiliation, leisure/catharsis, and skill/fitness. The internal consistency reliabilities, using Cronbach's (1951) alpha,

of the five components were, 0.87, 0.80, 0.60, 0.71, 0.76, respectively. Although the affiliation sub-scale failed to meet Nunnally's (1978) recommended criterion of 0.70, this was most likely due to the low number of items in the scale. Therefore, all five sub-scales were used in subsequent analysis. Four motives did not meet the 0.5 loading criterion for an item to be included in a scale. These motives were: "I like to travel", "I like the rewards", "I like the coaches or instructors", and "I like to use the equipment or facilities".

The solutions from the principal components analysis with varimax rotation of the discontinuation motivation questionnaire items could not be interpreted. Even so, there was a strong indication that only one component was present. However, this should be viewed cautiously as there were only 140 respondents who had discontinued playing cricket.

To determine whether the discontinuation motivation items could be treated as a single component, the internal consistency reliability of the 37 items was calculated. The Cronbach's (1951) alpha value of the discontinuation motives was 0.94. This alpha value was not improved by the deletion of items from the scale. Therefore, in subsequent analyses, the discontinuation motives were considered as a single component.

An interpretable four-component solution, explaining 48.4% of the variance, was identified from the component analysis with varimax rotation of the 24 items relating to parental behaviour (see Table 6). The components were labelled supportive behaviours, criticising behaviours, interest in performance, and achievement focus. The Cronbach's (1951) alpha values for the four components were 0.81, 0.74, 0.66, and 0.81, respectively. As this scale is in the primary stages of development, the interest in performance sub-scale was used in subsequent analysis, despite the sub-scale not meeting Nunnally's (1978) 0.70 criterion. Four items were eliminated from further analysis for not meeting the established 0.5 loading criterion for inclusion in a scale. These were: "Know my best batting score and/or best bowling figures", "Leave

Table 5

Principal components analysis with varimax rotation of the participation motives

	Component				
	I	II	III	IV	V
Team/Enjoyment					
I like the team spirit	**0.763**	-0.002	0.125	0.097	0.183
I like the teamwork	**0.711**	-0.017	0.138	0.136	0.318
I like to have fun	**0.694**	0.163	0.015	0.022	-0.014
I like the action	**0.645**	0.341	-0.016	0.294	0.085
I like being on a team	**0.625**	0.129	0.203	0.125	0.270
I like the challenge	**0.563**	0.405	0.013	0.282	0.233
I like the excitement	**0.555**	0.252	0.106	0.290	0.188
I like to meet new friends	**0.500**	-0.081	0.378	0.154	0.309
Achievement					
I like to compete	0.275	**0.703**	-0.042	0.237	0.133
I like to win	-0.057	**0.700**	0.095	0.209	0.108
I want to gain status or recognition	0.154	**0.571**	0.510	0.029	0.257
I like to do something I'm good at	0.328	**0.553**	0.132	-0.007	0.322
I like to feel important	0.206	**0.529**	0.450	0.180	-0.070
I want to go on to a higher level	0.165	**0.522**	0.127	-0.012	0.514
Affiliation					
I want to be popular	-0.042	0.375	**0.628**	0.220	0.077
My parents or close friends want me to play	0.029	0.087	**0.623**	0.151	0.228
I want to be with my friends	0.141	-0.091	**0.562**	0.154	-0.025
Leisure/Catharsis					
I like to get exercise	0.339	0.041	0.037	**0.595**	0.368
I like to get out of the house	0.256	0.204	0.174	**0.579**	-0.132
I want to get rid of energy	-0.011	0.119	0.207	**0.560**	0.111
I like to have something to do	0.442	0.153	0.116	**0.544**	-0.103
I want to release tension	0.101	0.137	0.367	**0.541**	-0.026
Skill/Fitness					
I want to improve my skills	0.288	0.230	0.037	-0.052	**0.645**
I want to learn new skills	0.445	0.092	0.196	0.006	**0.629**
I want to be physically fit	0.253	0.195	0.039	0.475	**0.582**
I want to stay in shape	0.097	0.108	0.217	0.538	**0.581**
Eigenvalues	4.64	3.27	2.93	2.92	2.74
Percentage of variance explained	15.5%	10.9%	9.8%	9.7%	9.1%
Mean	4.09	3.76	3.06	3.35	4.07
Standard deviation	0.68	0.80	0.91	0.80	0.76
Internal consistency reliability	0.87	0.80	0.60	0.71	0.76

participation decisions up to me", "Discuss the coach's strengths and weaknesses", and "Adjust meal times to my cricket practices and games".

Principal components analysis, with varimax rotation, of the 12 Coaching Behaviour Assessment System items revealed a three-component solution, which explained 53.9% of the variance (see Table 7). The three components were labelled supportive/ instructional, punitive, and responsive behaviours. Using Cronbach's (1951) alpha, the internal consistency reliabilities of the components were 0.81, 0.68, and 0.41, respectively. The low alpha values of the later two sub-scales could be attributed to the increased sensitivity of Cronbach's (1951) alpha to scales with low numbers of items. Therefore, all three sub-scales were included in subsequent analysis. All items met the 0.5 loading criterion for an item to be included in a scale.

Table 6

Principal components analysis with varimax rotation of the parental behaviours

	Component			
	I	II	III	IV
Supportive Behaviours				
Congratulate me after I have had a good game	**0.743**	-0.023	0.233	0.096
Provide me with transport	**0.710**	-0.040	0.142	-0.072
Show awareness of my feelings	**0.637**	-0.221	0.225	0.081
Pay my cricket fees and buy my equipment	**0.636**	-0.033	-0.040	0.074
Attend my games/tournaments	**0.623**	0.143	0.446	-0.017
Give encouragement after I have played poorly	**0.619**	-0.263	0.182	0.191
Make personal sacrifices for my benefit	**0.573**	0.010	0.125	0.262
Criticising Behaviours				
Criticise me after I have played poorly	-0.020	**0.785**	-0.002	0.091
Show disappointment after I have played poorly	-0.016	**0.767**	-0.034	0.195
Compare me to other players	-0.007	**0.638**	0.056	0.301
Judge me by my achievements	-0.059	**0.575**	0.098	0.186
Prevent me from attending other (non-cricket) activities	-0.207	**0.556**	0.052	0.006
Criticise me after I have played well	-0.061	**0.514**	0.269	-0.166
Interest in Performance				
Watch practices	0.075	0.036	**0.768**	0.006
Discuss how I performed at practice	0.131	-0.016	**0.623**	0.308
Discuss my progress with the coach	0.213	0.119	**0.597**	0.151
Shout advice before I bat or bowl	0.226	0.056	**0.506**	0.221
Achievement Focus				
Push me to excel	0.170	0.239	0.080	**0.774**
Push me to train harder	0.099	0.180	0.305	**0.758**
Emphasise that I should train hard	0.161	0.156	0.214	**0.747**
Eigenvalues	3.77	2.87	2.67	2.30
Percentage of variance explained	15.7%	12.0%	11.2%	9.6%
Mean	5.45	2.01	3.06	3.85
Standard deviation	1.13	0.97	1.35	1.64
Internal consistency reliability	0.81	0.74	0.66	0.81

Table 7

Principal components analysis with varimax rotation of the coaching behaviours

		Component	
	I	II	III
Supportive/Instructional Behaviours			
General technical instruction	**0.745**	0.089	-0.036
General encouragement	**0.722**	-0.143	-0.119
Mistake-contingent technical instruction	**0.715**	0.010	-0.082
Mistake-contingent encouragement	**0.685**	-0.254	-0.074
Organisation	**0.625**	-0.173	-0.095
Keeping control	**0.567**	0.277	0.220
Reinforcement	**0.563**	-0.139	-0.322
General communication	**0.551**	0.050	-0.170
Punitive Behaviours			
Punishment	-0.089	**0.835**	0.056
Punitive technical instruction	-0.025	**0.833**	0.080
Non-responsive Behaviours			
Non-reinforcement	-0.146	0.266	**0.732**
Ignore mistakes	-0.099	-0.072	**0.722**
Eigenvalues	3.42	1.69	1.36
Percentage of variance explained	28.6%	14.1%	11.3%
Mean	4.69	2.04	3.03
Standard deviation	1.05	1.23	1.20
Internal consistency reliability	0.81	0.68	0.41

Differences between groups

Participation Motivation

In order to determine if there were any differences between the demographic groupings on the five participation motives from the component analysis, component scores were created and used as dependent variables in multivariate analyses of variance. Significant multivariate main effects were found for geographic location (Pillai's Trace = 0.05, $F(10, 1364) = 3.48, p < 0.01$), school type (Pillai's Trace = 013, $F(10, 1126) = 7.88, p < 0.01$), year level (Pillai's Trace = 0.11, $F(10, 1364) = 7.53, p < 0.01$), sex (Pillai's Trace = 0.12, $F(5, 680) = 19.04, p < 0.01$), and ethnicity (Pillai's Trace = .04, $F(15, 2031) = 2.00, p < 0.05$).

Univariate Fs and post hoc Tamhane (1977) analyses were examined to determine which groups differed with respect to the five participation motive components. Players in the Auckland region rated all five motives for participation higher than did players in the Central District's region ($p < 0.01$). In addition, Auckland players rated achievement and affiliation motives higher than players in the Canterbury region ($p < 0.05$).

Players from boys', girls' and co-educational schools differed on their ratings of achievement, affiliation, and leisure/catharsis motives. Players from co-educational schools rated achievement and affiliation motives higher than players from other schools types, followed by boys' schools and girls' schools, respectively ($p < 0.05$). On the leisure/catharsis motive, co-educational players had higher ratings than the other two school types ($p < 0.01$). There was no difference in the ratings of players from boys' and girls' schools on the leisure/catharsis motive.

Differences in year levels existed on the team/enjoyment, affiliation, and skill/fitness motives. Year nine players rated team/enjoyment motive as being more important than year 13 players ($p < 0.05$). The affiliation motive was ranked more highly by year eight players than other players ($p < 0.05$). Also, players from years eight and nine ranked the skill/fitness motive higher than did year 13 players ($p < 0.01$).

Male and female players differed on their ratings of the achievement ($F(1, 684) = 55.12$, $p < 0.01$), affiliation ($F(1, 684) = 41.03$, $p < 0.01$), and leisure/catharsis motives ($F(1, 684) = 8.17$, $p < 0.01$). Specifically, males rated all three motives for participation higher than females.

One main difference was revealed with regard to the ethnicity of the players. Pacific Island players ranked the importance of the achievement motive higher than New Zealand European players ($p < 0.05$).

Discontinuation Motivation

Differences between demographic groupings on the combined discontinuation motive were found by creating component scores for the discontinuation motive, for use as a dependent variable in analyses of variances. The only difference found was between those who stopped playing cricket in year nine and those who stopped playing cricket once they had left school. Those who discontinued playing at the year nine level rated the reasons for stopping playing cricket more highly than those who had stopped playing after leaving school ($t(115) = 2.32$, $p < 0.05$).

Coaching Behaviours

In determining whether there were any differences between demographic groupings on the three coaching behavioural categories from the component analysis, component scores were derived for use as dependent variables in multivariate analyses of variances. Significant main effects were found for geographic location (Pillai's Trace = 0.03, $F(9, 2409) = 2.31$, $p < 0.05$), decile rating (Pillai's Trace = 0.03, $F(6, 1590) = 3.65$, $p < 0.01$), school type (Pillai's Trace = 0.03, $F(6, 1348) = 3.05$, $p < 0.01$), sex (Pillai's Trace = 0.02, $F(3, 801) = 5.63$, $p < 0.01$), and participation status (Pillai's Trace = 0.02, $F(3, 803) = 4.37$, $p < 0.01$).

Univariate Fs and post hoc Tamhane (1977) analyses were conducted to ascertain which groups differed from one another on the three coaching behaviour categories. One difference between the three regions was found. Auckland participants in the survey perceived their coaches to be more non-responsive than Central District's players did ($p < 0.05$).

Participants from schools with different decile ratings varied on their perceived frequencies of supportive/instructional and punitive coaching behaviours. Coaches from high decile schools were perceived to exhibit less supportive/instructional behaviour than did coaches of respondents from schools with low ($p < 0.05$) or medium ($p < 0.01$) decile ratings. Players from schools with medium decile ratings perceived lower levels of criticism from coaches than players from low ($p < 0.05$) or high ($p < 0.01$) decile schools did.

One difference was found between participants' perceptions with regard to school type. Participants from boys' schools perceived their coaches to be less supportive/instructional than participants from girls ($p < 0.01$) and co-educational ($p < 0.05$) schools.

Two differences were present between males and females. Males perceived their coaches to be less supportive/instructional ($F(1, 803) = 6.34$, $p < 0.05$) and more punitive ($F(1, 803) = 11.93$, $p < 0.01$) than females did.

A comparison of those who played cricket and those who had recently stopped playing revealed one significant difference with regard to coaching behaviour. Players perceived their coaches to be more supportive/instructional than those who had stopped playing cricket ($F(1, 805) = 12.58$, $p < 0.01$).

Parental Behaviours

To compare demographic groupings on the four parental behaviour categories from the component analysis, component scores were computed for use as dependent variables in multivariate analyses of variances. Significant main effects were found for geographic location (Pillai's Trace = 0.06, $F(12, 2313) = 3.99$, $p < 0.01$), school type (Pillai's Trace = 0.05, $F(8, 1304) = 3.83$, $p < 0.01$), sex (Pillai's Trace = 0.05, $F(4, 769) = 9.39$, $p < 0.01$), ethnicity (Pillai's Trace = 0.09, $F(12, 2301) = 5.69$, $p < 0.01$), sex in team (Pillai's Trace = 0.04, $F(4, 747) = 8.15$, $p < 0.01$) and participation status (Pillai's Trace = 0.05, $F(4, 771) = 9.00$, $p < 0.01$).

Post hoc Tamhane (1977) analyses were performed to determine if any differences were present between the groups on the parental behaviours. There were regional differences in three of the four parental behaviours. Participants from Auckland perceived their parents to be more critical than did participants from the other regions ($p < 0.01$). When comparing Auckland and Central District's participants, Auckland participants perceived that their parents were more interested in their performance ($p < 0.01$) and had a greater achievement focus ($p < 0.01$).

Differences in participants' perceptions of parental behaviours were evident between the types of schools. Participants from girls' schools perceived their parents to be less critical ($p < 0.01$) and had less of an achievement focus ($p < 0.01$) than did participants from boys' or co-educational schools.

The frequency that perceived parental behaviours were exhibited changed with the year level of the participant. Year 13 participants perceived their parents to be less supportive ($p < 0.01$) and have a lower interest in performance ($p < 0.01$) than year eight and year nine participants. Year eight participants perceived their parents to have more interest in performance ($p < 0.05$) than did year nine participants.

Two perceived parental behaviours differed between the sexes. Male participants perceived that their parents were more critical ($F(1, 772) = 16.11$, $p < 0.01$) and had a greater achievement focus ($F(1, 772) = 27.80$, $p < 0.01$) than did the parents of females.

Ethnic differences were evident on all four parental behaviours. Pacific Islanders perceived their parents to be more criticising ($p < 0.01$) than parents of all other ethnic groups. Also, Pacific Island participants perceived their parents to have a greater interest in performance than parents of New Zealand Europeans ($p < 0.05$).

There were differences in perceived parental behaviours between those in single sex and mixed sex teams. Those in single sex teams perceived their parents to have less interest in performance ($F(1, 750) = 5.99$, $p < 0.05$) and more achievement focus than those in mixed sex teams ($F(1, 750) = 12.19$, $p < 0.01$).

Players and those who stopped playing had different perceptions of the behaviours of their parents. Players perceived their parents to be more supportive ($F(1, 774) = 10.25$, $p < 0.01$), more critical ($F(1, 774) = 5.25$, $p < 0.05$), and had a greater achievement focus ($F(1, 774) = 20.41$, $p < 0.01$). There was no difference on the interest in performance component.

Discussion

This discussion will consider the results of the present research in light of the research objectives and the literature reviewed. Firstly, the associations between participation/discontinuation motivation and parental/coaching behaviours will be addressed. Secondly, the questions of why young New Zealand cricketers play or discontinue from playing cricket will be explored. Thirdly, the parental behaviours that were perceived by the adolescent cricketers will be discussed. Finally, the coaching behaviours that were perceived by the cricketers will be reviewed

The Relationship Between Participation/Discontinuation Motivation and Coaching/Parental Behaviours

The major finding of the present study was a moderate relationship between coaching behaviour and discontinuation motivation. Relationships were found between discontinuation motivation and both punitive and non-responsive coaching behaviours. However, there was no association between participation motivation and these two coaching behaviours. In addition, of the top eleven most important reasons for discontinuing participation in cricket, three were related to the coach.

Nevertheless the only significant difference between participants and those who discontinued playing was that participants perceived that their coaches exhibited supportive/instructional behaviours more frequently than those who had stopped playing. It appears that although the coaches were not more punitive or non-responsive to those that later discontinued, they did not provide enough encouragement, support and coaching in the skills of cricket for those individuals to continue playing the game.

Relationships were also present between parental behaviour and participation/discontinuation motivation. Such associations were not unexpected, as researchers have emphasised the importance of both parents and coaches in the lives of young athletes (Greendofer, 1977; Smith & Smoll, 1996). However, the strength of the

relationships between parental behaviours and both participation and discontinuation motivation is perhaps surprising. Evidence has shown that during early adolescence young athletes shift their reference group from their parents towards peers, coaches and others (Greendorfer, 1977, 1987; Rosenberg, 1980). Although the results of the current study are in congruence with this previous research, it shows that in adolescent cricket in New Zealand, parental behaviour is more strongly related to participation motivation than coaching behaviours and is almost as strongly related to discontinuation motivation as coaching behaviours.

Although there was a moderately strong relationship between participation/ discontinuation motivation and parental/coaching behaviours, the associations weakened as the year levels increased. The respective relationships were strongest at the year eight level and got progressively weaker in year nine and year 13. At all year levels the relationships between participation motivation and parental behaviour were stronger than the relationships between participation motivation and coaching behaviour. This appears partially contradictory to the previously stated findings of Greedorfer (1977, 1987) and Rosenberg (1979) as it would be expected that the influence of coaches would increase with the year levels. However, a plausible explanation may be a lack of coaches in the older age groups limiting the possible association between the behaviour of coaches and the participation/discontinuation motives of players.

The largest correlation between parental behaviour and participation motivation was between the achievement focus of parents and the achievement motive of cricketers. Therefore, it seems that if parents provide a motivational climate that encourages achievement, then adolescents are more likely to participate in order to achieve. This is consistent with White's research (White, 1996; White, Kavussanu, & Guest, 1998) where a relationship was found between the goal orientations of young athletes and their perceptions of the motivational climate created by significant others. In White et al.'s (1998) study, task orientation was related to athletes' perceptions of a task orientated motivational climate initiated by their parents and coaches. Ego orientation corresponded with athletes' perceptions of an ego orientated climate in sport as well as a success without effort climate created by their fathers, and a worry-conductive climate provided by both parents.

The finding of the present study that the achievement focus of parents was related to the achievement motive of cricketers can also be compared with the research of Williams (1996), who found that coaching behaviours were related to the motivational climate of the team. In Williams' (1996) study, reinforcing, encouraging, instructing, and less punishing and outcome-orientated coaching behaviours were associated with teams with higher mastery team climates. While teams with higher performance team climates had coaches who gave less reinforcement, instruction and encouragement, and greater levels of punishment and outcome-orientated statements. The findings of the present study suggest that the motivational climate provided by parents influences the motivations of adolescent cricketers.

Participation/Discontinuation Motivation

In the present study, young New Zealand cricketers had a variety of motives for playing cricket. At a descriptive level, the item, "I like to have fun", was ranked highest by the players, regardless of their sex, age, ethnicity or school. This is consistent with evidence from other studies where the "fun" motive was ranked highest, or at least in the top four reasons for playing cricket (Gill, Gross, & Huddleston, 1983; Klint & Weiss, 1987; Sapp & Haubenstricker, 1978).

Three other prominent motives for playing cricket were skill development, team affiliation and competition. The younger boys in the study ranked the items relating to skill development more highly, whereas, girls ranked items that describe aspects of belonging to a team more highly. Competitive motives were emphasised more by players who were nearing the end of adolescence and skill development motives were not as salient as they were for the younger players.

Sex and age differences have been found in other studies (for example, Brodkin & Weiss, 1990; Gill et al., 1983; Longhurst & Spink, 1987). Nevertheless, like the aforementioned studies, the sex differences found in the descriptive statistics of the present study are of no practical significance. The year level differences may represent that older cricketers are more skilful than younger players are and so skill development may not be as important as honing the skills already attained.

The participation motives were reduced to five components that represented the 30 items. In order of importance to the cricketers, these components were team/enjoyment, achievement, affiliation, leisure/catharsis and skill/fitness. These categories are similar to those in the existing literature (for example, Gill et al., 1983, Gould et al., 1985, Brodkin & Weiss, 1990). However, the present study failed to replicate the factor solution of Gill et al. (1983), or Gould et al.'s (1985) study, where additional psychometric testing was conducted on the 30 items of Gill et al.'s instrument. This lack of replication was not surprising as Gould et al. (1985) commented that the use of alternative rotational methods produced equivocal results.

Each component in the present study explained an approximately equal amount of the variance. This was dissimilar to the research of Brodkin and Weiss (1990), Buonamano et al. (1995), and Gould et al. (1985), where the first component in each study accounted for a much larger percentage of the variance in comparison to the other components. Although the broad motives for participation have been well established by prior research, a generic component structure of participation motivation may be unobtainable due to pertinent factors, such as culture, type of sport, philosophical orientation of the sport programme and age.

In the present study, items relating to team and enjoyment motives loaded on the same component. This is different to Gill et al.'s (1983) study where the same items loaded separately on three different components, namely: team, friendship and fun. Similarly, in other studies (for example, Buonamano et al., 1995; Gould et al., 1985) the team motives formed a separate component. Such a finding in the present study appears to indicate that much of the enjoyment derived from cricket comes from being part of a team. Moreover, even though individual contributions in a cricket game can be fairly easily established in terms of batting, bowling and fielding statistics, aspects of belonging to and working with a team brings more enjoyment than individual achievement.

The achievement component is similar to the achievement/success (Gill et al., 1983; Gould et al., 1985) and success/status (Buonamano et al., 1995) components found in other studies. This reaffirms the importance of successful performance, relative to self or others, as a salient motive for participation in sport. As has previously been alluded to, although achievement in terms of winning and losing is determined at the team level, the easy identification of individual contributions make achievement, whether referenced against self or others, simple to determine.

The third component in the present study, affiliation, did not exist in other similar studies (for example, Gould et al., 1985; Klint & Weiss, 1986; Longhurst & Spink, 1987). This may reflect the importance of schools in the decision to participate in cricket. In New Zealand, the majority of adolescent cricket teams are formed in schools and are involved in interscholastic competition, therefore, it is suggested that friendships formed in the school environment are likely to affect the decision to play

cricket, either positively or negatively. For example, if an adolescent's friends are playing cricket then he or she may also play cricket in order to remain part of the group and continue being with his or her friends. In addition, there may be encouragement and persuasion from the group to get the individual involved in cricket.

Component four, named leisure/catharsis, was composed of items that have been referred to as energy release in other studies (for example Buonamano et al., 1995; Brodkin & Weiss, 1990) as well as an item relating to fitness. It seems that cricket is viewed by some as a desirable form of physical leisure.

The final component, skill/fitness, combined items relating to both skill and fitness in the same component. This is dissimilar to previous studies (for example, Gill et al., 1983; Gould et al., 1985) where skill and fitness were orthogonal components. However, the component in the present study is similar to the fitness/skill component that was found in Buonamano et al.'s (1995) research. The skill/fitness component found in the present study represent elements that are usually worked on during practice. Also, given the duration of the game, a reasonable level of fitness is required in order to perform skills accurately and consistently over the course of a game. A typical game for the younger adolescents would be played over three hours, where every player would be on the field for at least half the time. While for older adolescents, the game may be played over six hours.

Multiple analysis of variance revealed that males and females differed on three participation motives. Males rated achievement, affiliation and leisure/catharsis motives higher than females did. This represents partial replication of Gill et al.'s (1983) finding that males gave more importance to achievement/status reasons for sport participation than females did. From the results of the present study it appears that cricket plays a much greater role in the lives of young males than young females.

Historically, cricket has been, by and large, a male sport and although attitudes are changing, males dominate the game. It seems, however, that there is more pressure on males to play cricket than on girls. Given Snyder & Spreitzer's (1973) finding that same sex parents are more influential than opposite sex parents, it appears that males are more strongly influenced to play cricket as there is a greater chance that their fathers played

cricket than their mothers. As there is a smaller probability that their mothers were involved in cricket, daughters may not have been receiving as strong a influence to play cricket as sons were.

Like Brodkin and Weiss (1990), the present study found participation motives differed with the age of the participant. In the present study, cricketers in year eight, nine, and 13 differed on how they rated team/enjoyment, affiliation, and skill/fitness motives. Year nine players rated team/enjoyment as a more important motive than year 13 players did. In year nine, players have a greater chance of playing in a team with their friends at school. Thereby, participation in cricket may be seen as more of a group decision, whereas, when players reach year 13 they would normally be in a team where there is multiple year levels and less of a chance that they will be with their main group of peers.

The affiliation motive was rated higher by year eight players than by year nine and year 13 players. Two reasons for this can be hypothesised. Firstly, year eight is the final year of primary/intermediate school with reasonably established groupings of friends and participation decisions. Upon going to high school, individuals form new groups of friends and have a chance to re-evaluate their participation decisions with respect to the opportunities and peer groupings provided in this new environment.

Secondly, this could be indicative of the influence that parents still have at this age level. Parental influence is an element of the affiliation motive and, in the present study, parental behaviours were more highly correlated with participation motivation at the year eight level than the year nine and year 13 levels. In addition, Brodkin and Weiss found that significant others was rated more highly, as a participation motive, by six- to 14-year-old children than any other age group.

Year eight and year nine players rated the skill/fitness motive more highly than year 13 players did. At the year eight and nine levels, players are still learning the skills involved in the game of cricket, whereas, by year 13, most players would have a good understanding of the basics and would be looking to test themselves at more competitive levels. Increasing levels of fitness are also required at higher levels of the game.

The descriptive statistics on the motives for discontinuing cricket participation revealed a disparate range of reasons why year nine students and school leavers stopped playing cricket. The main reason why cricketers stopped playing was that they wanted to play another sport. Therefore, these individuals are not dropping out of sport altogether, but are transferring to another sport. This finding supports the results of studies in gymnastics (Klint & Weiss, 1986) and competitive swimming (Gould et al., 1982) that have shown that the majority of those athletes who drop out of these sports continue participation in other sports. Using Gould and Petlichkoff's (1988) model, it seems that cricket no longer delivers a satisfactory level of benefits versus costs, or the outcomes of costs-benefits analyses that they perform on other activities are more favourable than the costs and benefits of continued involvement in cricket.

As has already been mentioned, a cause for concern for organisations that deliver cricket to adolescents, is the prominence of items pertaining to aspects of coaching being ranked highly as motives for discontinuation. Three items relating to the lack of support and encouragement from the coach, as well as a dislike for the coach were rated in the top 11 reasons for discontinuing playing cricket. This finding provides partial support for Orlick's (1974) research, which indicated that younger athletes discontinued because of the competitive emphasis of the programme and their coaches. However, Orlick's results have not been replicated by subsequent studies. Even so, the present study indicates that the coach is a significant factor in adolescents dropping out from cricket in New Zealand.

As well as the items related to coaches, a further five of the top 11 reasons can be directly influenced through their philosophy and methods of coaching. Two items were related to the type of involvement the players had in the team ("I didn't get to bowl or bat often", "I was just a fielder"). That is, these individuals were not given opportunities to demonstrate ability and develop their skills in two of the main aspects of cricket – batting and bowling. A further two items were related to the players' lack of enjoyment ("It was boring", "It wasn't fun"). Essentially, these two items are associated to the previous two items. A lack of opportunity to bat or bowl is likely to result in decreased levels of enjoyment of cricket. The final item pertains to players' conceptions of success and failure ("I wasn't successful at playing cricket"). The actions of the coach, through

team selection and behaviours towards the players, have an effect on players' perceptions of how successful they were.

Another issue is that females rated poor practice/playing facilities as a more salient motive for discontinuing cricket participation than males. The females that responded to this question all came from single sex schools. As cricket is still a developing sport for females, it could be that girls' schools, on the whole, have yet to provide the facilities that their male counterparts enjoy. As the number of girls' teams in each school is usually relatively small, the limited funds available to schools are likely to go toward sports and activities that have greater participation levels. In addition, it is possible that the year nine girls experience a drop in the standard of playing facilities when they come from primary/intermediate schools, where participation in cricket is higher and usually mixed sex.

Parents

Four major components of parental behaviour were identified from Wood and Abernethy's (1991a) 24 behaviours, namely supportive behaviours, criticising behaviours, interest in performance and achievement focus. Although these authors did not have a large enough sample to conduct a factor analysis, their research identified how desirable each of the behaviours was, how much pressure the behaviours induced and how much support they gave. Despite the present study not addressing these three elements, useful comparisons can be made.

The first component, supportive behaviours, is comprised of behaviours that can be regarded as being positive in nature. Parental support is salient for the reduction of stress in young athletes (Cohen & Wills, 1985; Van Yperen, 1995). In Van Yperen's study, low performing athletes with low levels of parental support experienced higher levels of interpersonal stress than low performing athletes with high levels of parental support. It appears that parental support is most beneficial when athletes are under stress (Cohen & Wills, 1985). Moreover, the majority of the items in this component were regarded by the subjects in Wood and Abernethy's (1991a) study as highly desirable, inducing low levels of pressure and were highly supportive.

In contrast, the second component, criticising behaviours, is made up of parental behaviours that may be regarded by adolescent cricketers as being negative. The mean of this component is equivalent to the "Hardly ever" category of the seven-point scale, indicating that the behaviours that make up this component did not happen frequently to adolescent cricketers. The athletes in Wood and Abernethy's (1991a) study ranked the majority of these behaviours as having a low level of desirability, inducing a high level of pressure, and giving a low level of support. Therefore, a cricketer who perceives their parents to be highly critical is likely to experience higher levels of pressure. This pressure, if it becomes too high, can result in lower self esteem (McElroy, 1982), higher stress levels (Scanlan & Lewthwaite, 1988), negative athlete reaction (Hellstedt, 1990), and athlete burnout (Thornton, 1991).

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The final two components, interest in performance and achievement focus, could be effected by the level at which the cricketer is playing. In general, the swimmers in Wood and Abernethy's study (1991a) regarded the behaviours that make up these components as having neither high nor low desirability, exerting neither high nor low pressure, and providing neither high nor low levels of support. However, there were differences between elite and non-elite swimmers. Elite swimmers regarded the majority of those behaviours that comprised the interest in performance component, in the present study, as inducing high levels of pressure. In addition, non-elite swimmers regarded those behaviours that make up the achievement focus component as inducing high pressure levels, whereas elite swimmers associated the majority of these behaviours with low levels of parental support.

Pacific Island respondents perceived their parents to be more critical than other ethnic groups and had a greater interest in performance than the parents of New Zealand Europeans. This is consistent with Collier, McClure, Collier, Otto, and Polloi's (1999) observations that views of child maltreatment and parenting styles are culture-specific. Commenting on parenting styles in the Republic of Palau, these authors state that it is common for a Palaun parent to tie a two to three-year-old's leg to a post by means of a rope, when the child cannot be supervised. Parents are known to beat their children with a "skobang" – a broom used in the tropics, which often leaves cuts and bruising – for failing to do their homework or household chores. Also, sexual abuse is prevalent, however, in a culture that emphasises the value and honour of the family unit, the abuser normally is protected by the silence of the family members. As a result, the findings of the current study, that Pacific Island parents are perceived by their children as being more critical, could be attributed to cultural differences in parenting styles, while the higher interest in performance could arise from the greater focus on the family unit.

The same evidence could be used to explain why Pacific Island cricketers ranked the achievement motive higher than the New Zealand Europeans did. The achievements of a young Pacific Island player could bring more honour to his or her family in the eyes of the greater Pacific Island community.

Coaching

In the present study, the 12 coaching behaviours were separated into three components. Eight of the behaviours loaded onto the first component named supportive/instructional behaviours. This differs from previous research (Smoll et al., 1978, Smith et al., 1983) where supportive and instructional behaviours have been orthogonal. Based on these prior studies, Smith and Smoll (1996) suggested that these dimensions could be equivalent to the task and relationship orientations found in many leadership theories (for example, Fiedler, 1967; Chelladurai & Carron, 1978). However, in the present study these two dimensions loaded on the same component, adding to the equivocalness of principal components analyses of the Coaching Behaviour Assessment System (CBAS). This suggests that the coaches, who were perceived as being highly supportive, also provided high levels of instruction in the skills of cricket.

The present study supports the conclusion of Smith et al. (1983) that reinforcement/encouragement behaviours are distinct from punishing behaviours, rather than being at opposite ends of the same dimension. In the present study, the second component, punitive behaviours, was orthogonal to the component of supportive/instructional behaviours. Accordingly, those coaches that provided low levels of support and instruction were not necessarily more critical, and vice versa.

The third component in the current study, non-responsive behaviours, is composed of two items pertaining to ignoring players' mistakes and good performances. This component is identical to the responsiveness dimension that was found in Smoll et al.'s (1978) analysis of observed CBAS behaviours.

In summary, both parents and coaches have important roles to play in the sporting experiences of adolescents. While the associations between parental behaviour and both participation and discontinuation motivation were fairly consistent, the associations found between coaching behaviour and discontinuation motivation should concern practitioners. How parents and coaches could address these concerns is the subject of the following section.

Implications for Parents and Coaches

From the present study, recommendations for parenting and coaching practice can be made. This section highlights what coaches and parents can learn from this research.

Parent Implications

Like the coaching implications, the implications for parents are not new. The most crucial behaviour that a parent can exhibit toward their child is support. It is important for parents to be supportive of their child's choice to play, continue playing or withdrawal from playing cricket. The salience of support is in its ability to reduce stress levels in potentially highly stressful situations. Also, as the child gets older they will need more parental support, not less.

Parents need to be careful not to criticise their child too often. This was the case in the present study where the cricketers perceived that they were hardly ever criticised. This is positive as criticism can result in pressure being placed on the cricketer. If this pressure rises to higher levels, it can cause higher stress levels, lower self esteem, and burnout.

Parents also need to be wary of how much interest they have in the performance of their child and how focused they are on achievement. Both of these behaviours could potentially place pressure on the young cricketer. It appears that different adolescents react in various ways to these behaviours. On the whole, however, high frequencies of these behaviours tend to be unsupportive and induce higher levels of pressure.

Promoting Involvement in Sport and Physical Activity

It is positive that parents are generally supportive of their children regardless of whether they continue playing or give up their involvement in cricket, however, it is of vital

importance that parents strongly encourage participation in physical activity. While the benefits of sport for young people are still being debated, the benefits of involvement in physical activity have been scientifically established.

In adolescents, a moderate amount of exercise, on most days of the week, has significant health benefits. These include helping to build and maintain healthy bones, muscles and joints; helping to control weight by increasing lean muscle and reducing fat; and preventing or delaying the onset of high blood pressure as well as reducing blood pressure in some adolescents with hypertension (US Surgeon General, 1996).

If adolescents get into the habit of daily exercise then they are more likely to continue exercising through their adult years. This also has major health benefits as the leading causes of illness and death in New Zealand, that is, heart disease, cancer and diabetes, can be prevented or delayed until later life through undertaking a regime of daily moderate exercise (Hillary Commission, 1998b).

Coaching Implications

Most of the implications for coaches that come out of the present study are not new ideas. Nevertheless, it is important that they are reiterated, as it appears from the results of the present study that some coaches either are not aware of these concepts or are simply not applying them. Given that coaching behaviours are more highly associated with discontinuation motivation and the appearance of a number of items related to, or under the influence of the coach, it seems that coaches need to be educated in the following areas.

Philosophical Orientation

On the basis of evidence from the present study, coaches are advised to adopt a player-centred coaching philosophy. A strong philosophy is arguably the most important element of a coach. Also, it is important that the philosophy is conducive to meeting the needs of the players. As the players, in the present study, consistently rated skill development and team affiliation concerns, in particular, over a focus on winning, it is sensible for a coach to create an environment that nurtures these needs.

The adoption of a win-centred coaching philosophy could result in players dropping out of the team, or the sport in general. The results of the present study indicate that some of the important reasons why cricketers discontinue their participation are because they have problems with the coach, they are not given enough opportunities and they do not enjoy themselves. A focus on winning leads to the selection of the best players, as well as concentrating on their development. This will mean that the less competent members of the team, in the eyes of the coach, will receive less attention and fewer opportunities.

Although an athlete-centred philosophy is recommended, winning should not be downplayed or forgotten. After all, the common objective of all sports is to win. The coach's role, in this respect, is to help athletes develop healthy attitudes towards winning or losing. Perhaps the most important element of this is to help athletes understand that winning and losing are separate to how they perceive themselves. That

is, if athletes lose it does not make them bad or incompetent people and vice versa. A coach should emphasise that the outcome of a game is only partially under the control of an athlete or team.

In addition, it is of more benefit to athletes if a coach focuses on processes rather than outcomes. In this respect, coaches need to provide instruction on how a team can win and how athletes should perform their roles. Through doing this, the coach clarifies the path towards the ultimate goal – winning.

Coaching Individuals

A coach needs to recognise that he or she is coaching a team of individuals. The present study showed that adolescent cricketers have a range of motives for playing the game. Through accepting that each individual is different, a coach can adapt how he or she coaches to the needs of the players. Of course, no player will be totally satisfied all of the time, however, through communicating with the players and trying to understand what drives them, a coach is in a much better position to satisfy and get the most out of players.

Nevertheless, coaches should not neglect to teach the values of being in a team. Athletes need to learn to cope with individual differences and when to put the team before self. They also need to appreciate the synergy created when a team is working well together.

Structure of Cricket

At the primary and intermediate school levels the majority of schools play KiwiCricket. KiwiSports, in general are adaptations of their parent sports. Modifications include the size, weight or style of equipment, playing area, length of the game or season, rules, number of players in each team, rotation of player positions, and the coaching approach, which places the needs of young people first (Hillary Commission, 1998a).

When young people go to secondary school they play a limited-overs version of cricket. Apart from the restriction of the number of overs bowled, there are little other rule changes. Perhaps a more modified version of the game is needed at higher levels, particularly years nine and 10, to bridge the gap between the heavily modified KiwiCricket and the limited-overs game. Changes to the game could be made to make it more condensed, more dynamic and allow for greater amounts of participation. This would be especially useful to female cricket as they tend to begin cricket participation later in life and so have not developed the same skill level as males of the same age.

Structure of Practices

Coaches at the junior level do not have a lot of contact time with their teams. Accordingly, it is critical that coaches make the most of what time they are allocated. Given this, as well as the adolescents motives for participating in, or withdrawing from cricket, doubt must be cast on whether it is sensible to use the traditional open-wicket or net sessions for coaching adolescents. With an open-wicket session, in particular, the players practising at a single point in time include the bowler, batsmen and wicket-keeper. The rest of the team are effectively ball gatherers. Furthermore, the skills a batsman can develop during his or her short period of batting is severely restricted due to the ability of the bowler and the batsman's own skill level.

As a result, coaches need to structure their practices toward maximum involvement and a high skill focus. Coaches need to plan their sessions carefully so that the skills of batting, bowling and fielding are progressively taught to players. There should be high levels of technical instruction and encouragement.

This author suggests that a ratio of one coach to every six players during practice would be ideal. That is, two coaches to every team. This allows both coaches to work with smaller groups of players, increasing the amount of interaction between coaches and players. The second coach does not need to possess great technical knowledge for example, one coach could give instruction in batting, while the other takes catching practice with the other group. In this instance, a parent could be involved with the catching practice.

Nevertheless, in practice, obtaining a ratio of one coach to every six players may be unrealistic given that many teams do not have one coach. To this end, more effort needs to be made by the national, major and minor cricket associations to recruit and retain more coaches. Coaches need ongoing support and frequent recognition that the work they are doing is appreciated. In addition, these coaches need to be trained so that they can deal with 12 players more effectively.

Match Day

When a side is batting, there is the potential for the players in the team who are not batting to get bored. This is especially the case with new or younger cricketers who are not used to the slow nature of the game. Hence the perception of those who discontinued playing cricket, in the present study, that the game is boring. This is an ideal opportunity for a coach to provide extra instruction for the players who are not immediately involved in the game.

Players may also get bored if they are fielding in the same position and the ball hardly ever goes their way. In this situation, a coach could make the captain aware of this and fielders could be rotated or moved around.

In summary, parents and coaches should endeavour to create a positive environment for adolescent cricketers. The main way that parents can do this is by providing support to their children, whereas coaches should attempt to maximally involve their players in constructive activities, whether during practices or games.

Suggestions for Future Study

The present study has essentially investigated three fields of study: participation/discontinuation motivation, socialisation and leadership. Therefore, suggestions for future study in all three areas are proffered.

Participation/Discontinuation Motivation

A great amount of research effort has been put into trying to establish why individuals participate in, and discontinue playing sport. Thus far, social empiricist studies have provided a fairly consistent set of reasons why individuals participate in or discontinue from sport. This is despite cultural differences and contrasting philosophical orientations of the programmes being studied. Furthermore, research focusing on social analysis has suggested several mutually inclusive theories of participation/ discontinuation motivation. Although Gould and Petlichkoff (1988) have integrated the findings of these approaches into their integrated model of youth sport participation and withdrawal, little effort has been made towards conceptual convergence of the participation/discontinuation motivation research. This deserves greater consideration in future.

Additionally, work needs to be conducted on the costs-benefits analysis component in Gould & Petlichkoff's (1988) model. The findings of Petlichoff's (1988) dissertation, which used this component, indicate that further investigation is warranted.

Research has identified that environmental factors are salient in determining participation/discontinuation motivation. As this is the case, future investigators should make use of the model that was conceptualised in the present study to try to identify the conditions under which individuals take up, persist in, or drop out from sporting activity.

Socialisation

In line with the conceptualisation that was proposed in the present study, future research efforts should be directed towards studying the influence of other socialising agents on the individual. While the present study considered the influence of parents and coaches, researchers need to study the influence of the behaviour of peers as well. This is particularly pertinent, as the literature suggests that peers play an important role as socialising agents from early adolescence (Greendorfer, 1977, 1987; Rosenberg, 1980).

While there is a solid body of literature pertaining to who socialises individuals into sport, and under what circumstances, there is still little knowledge about how they socialise the individual into sport. That is, what do socialising agents do that influence an individual to start playing, keep playing or drop out from a sport? It is important to accept that an individual's attitudes towards sporting participation, as towards everything else, are shaped by the environment, which includes the behaviours of significant others (Bootzin, Bower, Zajonc, & Hall, 1986). The present research goes some way in addressing this gap, however work still is required. Future researchers need to identify how individuals are first socialised into sport and what behaviours are salient in encouraging sport persistence and withdrawal.

Leadership

Although the Coaching Behaviour Assessment System was justifiably confined to 12 behaviours when it was designed, perhaps a more in-depth study of coaching behaviours could be conducted. For example, Kidman's (1995) Coaching Observation Instrument, which includes 23 behaviours, could be used in future research. An important difference between the two instruments is that Kidman's (1995) Coaching Observation Instrument includes a set of questioning behaviours. Questioning is an important technique for coaches to use as it helps to promote self-awareness in athletes (Hadfield, 1994; Kidman, 1996). Given that applied research is being conducted to try and enhance coach education programmes (Smith & Smoll, 1996), an instrument with a broader range of behaviours seems appropriate.

In addition, coaching style is an important aspect that needs to be investigated further. Although the present study was restricted to examining adolescents' perceptions of coaching behaviours, research into a coach's leadership style is also pertinent. Many current coaching texts emanated from North America where a prescriptive leadership style is being advocated (for example, Warren, 1997). The nature of many sports in this region – for example, American football, basketball, and volleyball – means that the coach has an opportunity to be highly influential during the playing of the games. As a result, a more prescriptive style of leadership has evolved. However, coaches have fewer opportunities to influence proceedings in the traditional sports that are played in New Zealand – for example, rugby, cricket, soccer and netball. Therefore, researchers need to look at what effect coaching styles have on athletes in terms of, for example, learning, self-awareness, satisfaction, performance and motivation.

There is a need to use alternative methodologies in the study of leadership. Contemporary researchers in the sports field have used pen-and-paper and observational methods in collecting data. However, a much fuller understanding may develop from an in-depth study of one, or a few coaches, rather than continuing to employ large samples.

In summary, participation/discontinuation motivation, socialisation and leadership are important areas of research in the sport domain. Researchers in the future should place an emphasis on causality and be willing to employ a diverse range of methodologies in order to produce a deeper level of understanding of these concepts.

Appendices

Appendix A: The Instruments

The Participation Motivation Questionnaire

This was based on the instrument developed by Gill, Gross and Huddleston (1983).

Below are some reasons that people give for participating in sports. Read each item carefully and decide if that item describes a reason why **you** participate in *cricket*. For each item circle the number that indicates how important each item is to **you**.

	1 Not at all Important	2 Not Very Important	3 Somewhat Important	4 Very Important	5 Extremely Important			
1. I want to improve my skills				1	2	3	4	5
2. I want to be with my friends				1	2	3	4	5
3. I like to win				1	2	3	4	5
4. I want to get rid of energy				1	2	3	4	5
5. I like to travel				1	2	3	4	5
6. I want to stay in shape				1	2	3	4	5
7. I like the excitement				1	2	3	4	5
8. I like the teamwork				1	2	3	4	5
9. My parents or close friends want me to play				1	2	3	4	5
10. I want to learn new skills				1	2	3	4	5
11. I like to meet new friends				1	2	3	4	5
12. I like to do something I'm good at				1	2	3	4	5
13. I want to release tension				1	2	3	4	5
14. I like the rewards				1	2	3	4	5
15. I like to get exercise				1	2	3	4	5
16. I like to have something to do				1	2	3	4	5
17. I like the action				1	2	3	4	5
18. I like the team spirit				1	2	3	4	5

	1	2	3	4	5
	Not at all Important	Not Very Important	Somewhat Important	Very Important	Extremely Important

19. I like to get out of the house   1   2   3   4   5

20. I like to compete   1   2   3   4   5

21. I like to feel important   1   2   3   4   5

22. I like being on a team   1   2   3   4   5

23. I want to go on to a higher level   1   2   3   4   5

24. I want to be physically fit   1   2   3   4   5

25. I want to be popular   1   2   3   4   5

26. I like the challenge   1   2   3   4   5

27. Like the coaches or instructors   1   2   3   4   5

28. I want to gain status or recognition   1   2   3   4   5

29. I like to have fun   1   2   3   4   5

30. I like to use the equipment or facilities   1   2   3   4   5

31. From the reasons listed above, go back and circle the number of the one that is the most important for you.

The Discontinuation Motivation Questionnaire

This instrument was self-developed.

Below are some reasons that people give for stopping their participation in sports. Read each item carefully and decide if that item describes a reason why **you** stopped participating in *cricket*. For each item circle the number that indicates how important each item is to **you**.

	1 Not at all Important	2 Not Very Important	3 Somewhat Important	4 Very Important	5 Extremely Important			
1. I was just a fielder.				1	2	3	4	5
2. It was too competitive.				1	2	3	4	5
3. I was not supported by my coach.				1	2	3	4	5
4. I wasn't successful at playing cricket.				1	2	3	4	5
5. I wanted to do something else.				1	2	3	4	5
6. I had to work.				1	2	3	4	5
7. The games took too long to play.				1	2	3	4	5
8. I was sick and could not play.				1	2	3	4	5
9. I could not afford the equipment to play.				1	2	3	4	5
10. It was boring.				1	2	3	4	5
11. My coach didn't accept me.				1	2	3	4	5
12. My parents didn't support me playing cricket.				1	2	3	4	5
13. I didn't get to bowl or bat often.				1	2	3	4	5
14. I didn't have the time to play.				1	2	3	4	5
15. I didn't like the coach.				1	2	3	4	5
16. I didn't like playing with the hard ball.				1	2	3	4	5
17. I wanted to play another sport.				1	2	3	4	5

	1	2	3	4	5
	Not at all Important	Not Very Important	Somewhat Important	Very Important	Extremely Important

18. I didn't like the pressure.	1	2	3	4	5
19. I worried about playing cricket.	1	2	3	4	5
20. I thought I would play poorly.	1	2	3	4	5
60. I wasn't good at playing cricket.	1	2	3	4	5
21. I didn't feel important.	1	2	3	4	5
22. It wasn't fun.	1	2	3	4	5
23. My best friends stopped playing cricket.	1	2	3	4	5
24. I could not afford the subscription.	1	2	3	4	5
25. I was injured and could not play.	1	2	3	4	5
26. My coach didn't encourage me.	1	2	3	4	5
27. I was not encouraged by my parents to play.	1	2	3	4	5
28. I did not get along with other players in my team.	1	2	3	4	5
29. I was not asked to play again.	1	2	3	4	5
30. My parents didn't want me to play.	1	2	3	4	5
31. I thought I might get hurt.	1	2	3	4	5
32. The practices took up too much time.	1	2	3	4	5
33. I didn't know where to join a team.	1	2	3	4	5
34. I didn't like how long I had to travel.	1	2	3	4	5
35. The practice/playing facilities were poor.	1	2	3	4	5
36. I was not accepted by the other players in the team.	1	2	3	4	5

From the reasons listed above, go back and circle the number of the one that is the most important for you.

The Coaching Behaviour Assessment System

This was based on the instrument developed by Smith, Smoll and Hunt (1977).

We want to see how well you remember what kinds of things your *cricket* coach did. We also want to know how often your coach did things during practices and games. In answering the questions, think only about the actions of your *cricket* coach.

1	2	3	4	5	6	7
Never	Hardly Ever	Seldom	Sometimes	Quite Often	Very Often	Almost Always

1. The first thing is called ***Reward***. Coaches reward or praise players when they do something well or try really hard. Some coaches give a lot of ***Reward*** while others do not. How often did your coach ***Reward*** you for good plays or effort? Circle the number that indicates how often your coach ***Rewarded*** you.

   1 2 3 4 5 6 7

2. *Nonreward* is when a coach does not reward or praise a player after he/she bats, bowls or fields well, or tries hard. In other words, the coach ignores it. Circle the number that indicates how often your coach did not reward you when he/she should have.

   1 2 3 4 5 6 7

3. Sometimes players make mistakes. Some coaches give a lot of ***Encouragement after Mistakes***. For example, he/she might say, "That's OK, don't worry about it. You'll get it next time." Other coaches don't give their players much encouragement after they make a mistake. Circle how often your coach gave you ***Encouragement after Mistakes***.

   1 2 3 4 5 6 7

4. Another thing a coach might do after a player makes a mistake is show or tell the player how to do it right. For example, a cricket coach might tell or show a player the right way to catch a ball after he/she drops a catch. This is called ***Corrective Instruction***. Circle how often your coach did this with you.

   1 2 3 4 5 6 7

1	2	3	4	5	6	7
Never	Hardly Ever	Seldom	Sometimes	Quite Often	Very Often	Almost Always

5. *Punishment* includes things like yelling at a player who has made a mistake. *Punishment* is also saying or doing something that hurts a player's feelings, or embarrasses him/her. Circle how often your coach did this with you.

1 2 3 4 5 6 7

6. Sometimes a coach will show you how to correct a mistake, but in an unpleasant, punishing way. This is a combination of *Corrective Instruction* and *Punishment.* For example, a cricket coach might angrily say, "Keep the ball on the ground, don't hit it in the air, you idiot!" Circle how often your coach did this with you.

1 2 3 4 5 6 7

7. Sometimes when you make a mistake, coaches say or do nothing. They simply *Ignore Mistakes.* Circle how often your coach did this with you.

1 2 3 4 5 6 7

8. The next thing is called *Keeping Control.* Coaches do this when their players are misbehaving or not paying attention. For example, if athletes are fooling around, the coach might say, "Knock it off and pay attention." How often did your coach do that?

1 2 3 4 5 6 7

9. Some coaches do a lot of teaching. A coach might give *Instructions*, not because a mistake has been made, but just to show players how to do things correctly. How often did your coach give you *Instructions*?

1 2 3 4 5 6 7

10. Coaches don't give *Encouragement* only after mistakes. They may do it any time, even when things are going well. For example, a coach may clap his/her hands and shout encouragement at any time during practices and games. How often did your coach give you *Encouragement*?

1 2 3 4 5 6 7

1	2	3	4	5	6	7
Never	Hardly Ever	Seldom	Sometimes	Quite Often	Very Often	Almost Always

11. The next thing is called *Organisation*. This includes things like keeping practices running smoothly, making sure the equipment is in the right place, announcing the batting order - in other words, keeping things organised. How often did your coach do things like that?

    1 2 3 4 5 6 7

12. Some coaches talk or joke with their players a lot. They might talk about school, professional sports, holidays, or about when they used to be a player. This is called *General Communication*. Circle how often your coach did this with you.

    1 2 3 4 5 6 7

The Parental Behaviour Questionnaire

This was based on the instrument developed by Wood and Abernethy (1991).

We want to see how well you remember what kinds of things your *parents* did. We also want to know how often your parents did these things. In answering the questions, think only about the actions of your *parents* involving cricket, such as when they are at one of your cricket practices or games, or when they talk to you about your cricket.

1	2	3	4	5	6	7
Never	Hardly Ever	Seldom	Sometimes	Quite Often	Very Often	Almost Always

My parents:

1. Criticise me after I have played poorly.   1 2 3 4 5 6 7

2. Prevent me from attending other (non-cricket) activities.   1 2 3 4 5 6 7

3. Show disappointment after I have played poorly.   1 2 3 4 5 6 7

4. Know my highest batting score and/or best bowling figures.   1 2 3 4 5 6 7

5. Watch practices.   1 2 3 4 5 6 7

6. Congratulate me after I have had a good game.   1 2 3 4 5 6 7

7. Attend my games/tournaments.   1 2 3 4 5 6 7

8. Criticise me after I have played well.   1 2 3 4 5 6 7

9. Leave participation decisions up to me.   1 2 3 4 5 6 7

10. Pay my cricket fees and buy my equipment.   1 2 3 4 5 6 7

11. Judge me by my achievements.   1 2 3 4 5 6 7

12. Discuss my progress with the coach.   1 2 3 4 5 6 7

13. Compare me to other players.   1 2 3 4 5 6 7

14. Emphasise that I should train hard.   1 2 3 4 5 6 7

15. Push me to excel.   1 2 3 4 5 6 7

1	2	3	4	5	6	7
Never	Hardly Ever	Seldom	Sometimes	Quite Often	Very Often	Almost Always

16. Give encouragement after I have played poorly.   1 2 3 4 5 6 7

17. Discuss the coach's strengths and weaknesses.   1 2 3 4 5 6 7

18. Discuss how I performed at practice.   1 2 3 4 5 6 7

19. Make personal sacrifices for my benefit.   1 2 3 4 5 6 7

20. Provide me with transport.   1 2 3 4 5 6 7

21. Show awareness of my feelings.   1 2 3 4 5 6 7

22. Shout advice before I bat or bowl.   1 2 3 4 5 6 7

23. Adjust meal times to my cricket practices and
games.   1 2 3 4 5 6 7

24. Push me to train harder.   1 2 3 4 5 6 7

Appendix B: Letters and Instruction Sheets

Letter and Instruction Sheet for Secondary School Administrators

DATE

CONTACT
SCHOOL
ADDRESS1
ADDRESS2
ADDRESS3

Dear CONTACT2,

Thank you for agreeing to let me use your school as part of my survey on why teenagers play, or stop playing cricket. The information that is obtained from this survey will help to provide a greater understanding of youth cricketers and should allow New Zealand Cricket to develop policies and programmes that will better cater for this country's young cricketers.

At the time I wrote to you last I expressed the hope that I would be able to visit your school to personally administer the questionnaire. However, some schools have said they would prefer to administer the survey themselves. Furthermore, resource constraints mean that unfortunately I am unable to carry out the original plan. Consequently, I would be most grateful if you could get the survey administered for me.

I have included with this letter a sheet called 'Instructions for Questionnaire Administrators' so that the questionnaire can be consistently administered across the country. I have attempted to make everything as clear as possible, however, if you are unsure of any of my instructions, please do not hesitate to contact me. My two main concerns are:

1. That the correct questionnaires are given to the correct target group.
2. That the questionnaire is administered in a controlled environment.

It would be preferable to administer the questionnaire to all the target groups at once, say in a form time period. In this way, the participants won't be able to talk to others who are filling in the questionnaire and influence their answers. Letting the students take the questionnaires away with them to complete in their own time is not desirable. I cannot stress enough the importance of administering the questionnaire in a controlled environment. If this is not done then the results may be skewed and the worth of this study diminished.

With this letter I have included the questionnaires for your students. The number I have given you is based on the number of students that you indicated on the Response Form

that played cricket for your school in the targeted year levels. I have also included a number of questionnaires for those students who played cricket in year eight but who don't play cricket now, in year nine. Since the numbers you entered into your Response Form were estimates I have included a few more questionnaires in case you need them. When the questionnaires have been administered, please place them in the envelope provided, along with the Administration Form (included with this letter) and send them all back to me.

The Administration Form requires you to briefly describe the conditions in which the survey was administered: for example, in a classroom supervised by a teacher. This information is needed for quality control purposes.

In addition, I am trying to track down a number of recent school leavers who played cricket for their school last year and who do not play cricket this year. If you know of any people in this category, I would be most grateful if you could provide their names and addresses on the Administration Form.

Once again, New Zealand Cricket and I appreciate your help with this survey and hope it will lead to better provision of cricket for young people in the future.

Kind regards,

Cadeyrn Gaskin

Phone: (06) 350 5337
Email: C.J.Gaskin@massey.ac.nz

Administration Form

School: SCHOOL
Contact Person: CONTACT

Please tick the box that best describes the conditions under which the questionnaires were administered.

☐   A staff member administered them in a classroom/hall.

☐   The students completed them in their own time.

☐   It was administered in another way. (Please State)

_____

_____

Do you know the name(s) and address(s) of any people who played cricket for your school last year but did not play cricket this year after they had left school?

Name _____

Address _____

_____

Name _____

Address _____

_____

Thank you very much for your time.

Cricket Questionnaire

Instructions for Questionnaire Administrators

In order to achieve reliable and valid data, the following guidelines for questionnaire administration should be followed.

1. There are separate questionnaires for each of the **three** groups of students. (In co-educational schools this applies to students of **both genders.**) These groups of students are:

    a. Year 9 students who played cricket for the school this year (these students receive the questionnaire with **CRICKET** at the bottom)

    b. Year 13 students who played cricket for the school this year (these students also receive the questionnaire with **CRICKET – YEAR 13** at the bottom)

    c. Year 9 students who did **not** play cricket for the school this year, but who **did** play cricket in Year 8 (these students receive the questionnaire with **NON-CRICKET** at the bottom)

2. The students should work on the questionnaire independently. That is, there should be **no talking**. If students discuss the questionnaire while they are filling it in, it will affect the results.

3. Students should **not** be told what various words mean. It is all right to read a question directly from the questionnaire if the student has trouble reading. However, words in the questionnaire should **not** be interpreted for them.

4. Please remind the students that **all** their responses are important, so they should read and answer each question **carefully**.

5. You should **not** read what the students have written.

6. When the students have finished, please place **all** the questionnaires, completed or uncompleted, in the envelop provided and post it back to the researcher.

Letter and Instruction Sheet for Primary/Intermediate School Administrators

DATE

CONTACT
SCHOOL
ADDRESS1
ADDRESS2
ADDRESS3

Dear CONTACT2,

Thank you for agreeing to let me use your school as part of my survey on why teenagers play, or stop playing cricket. The information that is obtained from this survey will help to provide a greater understanding of youth cricketers and should allow New Zealand Cricket to develop policies and programmes that will better cater for this country's young cricketers.

As I am not able to come to your school personally, I would be most grateful if you could get the survey administered for me. I have included with this letter a sheet called 'Instructions for Questionnaire Administrators' so that the questionnaire can be consistently administered across the country. I have attempted to make everything as clear as possible, however, if you are unsure of any of my instructions, please do not hesitate to contact me. My two main concerns are:

1. That the correct questionnaires are given to the correct target group.
2. That the questionnaire is administered in a controlled environment.

It would be preferable to administer the questionnaire to all the target groups at once, say in a form time period. In this way, the participants won't be able to talk to others who are filling in the questionnaire and influence their answers. Letting the students take the questionnaires away with them to complete in their own time is not desirable. I cannot stress enough the importance of administering the questionnaire in a controlled

environment. If this is not done then the results may be skewed and the worth of this study diminished.

With this letter I have included the questionnaires for your students. The number I have given you is based on the number of students that you indicated on the Response Form that played cricket for your school in Year 8. Since the numbers you entered into your Response Form were estimates I have included a few more questionnaires in case you need them. When the questionnaires have been administered, please place them in the envelope provided, along with the Administration Form (included with this letter) and send them all back to me.

The Administration Form requires you to briefly describe the conditions in which the survey was administered: for example, in a classroom supervised by a teacher. This information is needed for quality control purposes.

Once again, New Zealand Cricket and I appreciate your help with this survey and hope it will lead to better provision of cricket for young people in the future.

Kind regards,

Cadeyrn Gaskin

Phone: (06) 350 5337
Email: C.J.Gaskin@massey.ac.nz

Administration Form

School: SCHOOL
Contact Person: CONTACT

Please tick the box that best describes the conditions under which the questionnaires were administered.

    ☐   A staff member administered them in a classroom/hall.

    ☐   The students completed them in their own time.

    ☐   It was administered in another way. (Please State)

_____

_____

Thank you very much for your time.

Cricket Questionnaire

Instructions for Questionnaire Administrators

In order to achieve reliable and valid data, the following guidelines for questionnaire administration should be followed.

1. This questionnaire needs to be administered to **Year 8** students who played cricket for the school at the start of the year. (In co-educational schools this applies to students of **both genders.**)

2. The students should work on the questionnaire independently. That is, there should be **no talking**. If students discuss the questionnaire while they are filling it in, it will affect the results.

3. Students should **not** be told what various words mean. It is all right to read a question directly from the questionnaire if the student has trouble reading. However, words in the questionnaire should **not** be interpreted for them.

4. Please remind the students that **all** their responses are important, so they should read and answer each question **carefully**.

5. You should **not** read what the students have written.

6. When the students have finished, please place **all** the questionnaires, completed or uncompleted, in the envelop provided and post it back to the researcher.

Appendix C: Additional Descriptive Statistics

Table C1

Means and standard deviations of the participation motives by sex

Item	M	SD
Overall (*n* = 683)		
I like to have fun	4.58	0.69
I want to learn new skills	4.16	0.93
I want to be physically fit	4.15	0.98
I want to improve my skills	4.12	0.90
I like to do something I'm good at	4.10	0.99
I like being on a team	4.10	0.96
I like the teamwork	4.08	0.94
I like the challenge	4.05	0.92
I like the excitement	4.04	0.95
I like the action	4.04	0.97
Sex		
Males (*n* = 569)		
I like to have fun	4.57	0.70
I like to do something I'm good at	4.18	0.94
I want to learn new skills	4.17	0.94
I want to be physically fit	4.17	0.99
I want to improve my skills	4.14	0.91
I like to compete	4.12	0.94
I like the challenge	4.09	0.90
I like being on a team	4.09	0.95
I like the excitement	4.08	0.92
I like the action	4.07	0.95
Females (*n* =112)		
I like to have fun	4.64	0.60
I like the team spirit	4.17	0.97
I like being on a team	4.14	0.96
I like the teamwork	4.13	1.01
I want to be physically fit	4.10	0.95
I want to learn new skills	4.08	0.85
I want to improve my skills	4.02	0.83
I like to get exercise	3.95	0.96
I like the action	3.91	1.06
I like the excitement	3.89	1.03

Table C2

Means and standard deviations of the participation motives by year level

Item	M	SD
Year Level		
Eight ($n = 119$)		
I like to have fun	4.62	0.60
I want to learn new skills	4.25	0.86
I like the teamwork	4.20	0.90
I like being on a team	4.17	0.92
I want to be physically fit	4.11	1.03
I like to do something I'm good at	4.09	1.01
I like the excitement	4.08	0.91
I like the team spirit	4.06	0.92
I like the challenge	4.03	0.95
I want to improve my skills	4.01	0.98
Nine ($n = 391$)		
I like to have fun	4.64	0.66
I want to learn new skills	4.29	0.86
I want to be physically fit	4.28	0.89
I want to improve my skills	4.23	0.82
I like to do something I'm good at	4.14	0.99
I like being on a team	4.14	0.93
I like the action	4.13	0.92
I want to go on to a higher level	4.11	1.06
I like the challenge	4.09	0.90
I like the teamwork	4.09	0.91
Thirteen ($n = 173$)		
I like to have fun	4.44	0.78
I like to compete	4.10	0.96
I like to do something I'm good at	4.02	0.96
I like the challenge	3.98	0.95
I like the excitement	3.97	0.96
I like being on a team	3.96	1.03
I like the teamwork	3.96	1.02
I want to improve my skills	3.94	0.99
I like the team spirit	3.93	1.03
I like to win	3.91	1.06

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