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**Sticking it out:
Participation and discontinuation motives
of young players in hockey –
A New Zealand case study**

A thesis presented in partial fulfilment of the requirements
for the degree of
Masters of Business Studies
in
Sport Management

at Massey University, Turitea, Palmerston North
New Zealand

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2002

ABSTRACT

The present study investigated the reasons why year 11, 12, 13 and recent school leavers in the Palmerston North/Manawatu area participated in, or discontinued playing hockey. A longitudinal case study was used as the research design involving three different time parts. Two hundred and eighty six subjects completed the participation or discontinuation motivation questionnaire, over the three stages, depending on whether they were participating in, or had discontinued from playing hockey. A mixed methodology approach was used to gather data, through questionnaires and interviews. A modified version of the Participation Motivation Questionnaire (PMQ) developed by Gill, Gross and Huddleston (1983) was used for the participation research, while discontinuation research was obtained based on the Sport Non-participation Scale (McNally & Orlick, 1977, cited in Ostrow, 1996) and Gaskin's Discontinuation Motivation Questionnaire (DMQ).

The findings revealed multiple underlying motives for participation in hockey. A three-component factor solution in Stages One and Two demonstrated self, physical and team orientations, with Stage Three revealing a two factor solution, with self and physical/team orientations, as significant motives for participation in hockey. The findings indicate, that fun and enjoyment were salient factors in young peoples participation in hockey. Discontinuation results suggested a combination of motives as the most influential for participants' discontinuation in hockey including 'I wanted to do something else', 'I didn't have time to play hockey' and 'I wanted to play another sport'.

The implications of these results for parents, coaches and administrators are that there needs to be a greater awareness as to individual's motives for playing or ceasing hockey participation. To maintain players, suggestion made are to make trainings

stimulating and fun for players, help skill acquisition and improvement, provide time for players to be with friends in a learning environment. Parents, coaches and administrators need to work with practitioners to create programmes orientated toward satisfying motives of sport expressed by participants. Implications for practitioners are to be aware of changes facing youths as they enter the transitional phase, i.e. lifestyle changes, new friends, environment and teams.

Areas for further research include carrying out more longitudinal studies looking at participants over a time period rather than just one moment in time. Also looking at the same sample over an extended time period to see how participant's orientation toward sport participation alters, this may also reveal whether participants who had discontinued had made a temporary or permanent decision. Qualitative in-depth interviews could be carried out with participants who have discontinued to provide the researcher with a more detailed understanding of why discontinuation took place.

ACKNOWLEDGEMENTS

This project has provided me with a sense of personal satisfaction and achievement. However, the achievement would not have been possible without the support and encouragement of several people involved with this research.

I would like to acknowledge the professional support and ongoing guidance provided by my supervisors Sarah Leberman and Michael Chu. Without your help and direction this report would not have been up to the standard that warrants the personal satisfaction gained from its completion. Also Ralph Stablein, for all the advice and guidance throughout the statistical analysis process, I would still be back at Stage One without your assistance.

To Mum, Dad and Scott, thanks for all your support, encouragement, wisdom and advice throughout this project. To my flatmates and friends, thanks for putting up with me and keeping me sane. And to all those mentioned in the above sentence, thanks for helping me procrastinate through text messages, phone calls, e-mails and general good for nothing mucking round!

Finally, appreciation must be given to the post grad crew over the last two years for sharing the research experience and providing the computer lab with an endless supply of welcome interruptions and worse procrastinators than myself. Those times of discussion and waywardness made my journey a pleasant experience that will be well remembered.

So thank you to all those people who have contributed to this report, it was much appreciated.

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Sport plays a central role in New Zealand society with many New Zealanders involved in some form of organised sport (Trenberth & Collins, 1999; Chu, 1996; Moore, 1999). Because sport has a high status in this country, considerable resources are allocated to it and New Zealanders expect their teams to be well trained, as well as successful in international competition despite the relatively small size of the population (Grant & Stothart, 2000). Sport covers all levels of New Zealand society, from those involved in active sports participation to sports marketing and producing sport as a consumption item. The area of sport participation addresses general questions of how and why people become actively involved in sport. Just as important, beyond the initial reasons for becoming socialised into sport, those studying sport seek to understand why individuals continue and sustain their involvement in sport. A further important reason is identifying the factors, which cause permanent or temporary withdrawal from a particular sport or intensity level (Weiss and Chaumeton, 1992, cited in Horn, 1992).

As is noted above, sport holds an important role within New Zealand society and sport participation for young people is a means of positive socialisation (Horn, 1992). Physical education, including 'sports' and 'games' have been part of the New Zealand school curriculum since before 1900. Since 1900 until present, it has been argued that sport should be valued for its character building qualities and for promoting the values of teamwork, co-operation and discipline, which are instilled into young sport achievers (Berryman, 1988; Trenberth & Collins, 1999; Hirst, 2001). Sport participation is, therefore, an area of interest for researchers in youth sport, allowing researchers to study and reveal what motivates young people to play sport and what factors result in players withdrawing from sport.

This research looks at the motivations influencing young people to continue playing hockey during the transitional phase, whereby they leave secondary school and enter the workforce or higher tertiary education institutions. Objectives of the current research are to try and identify why year 11, 12, and 13 students continue to participate in hockey and what reasons they cite as influencing their participation in hockey when they leave school to enter the workforce or higher tertiary education in the Palmerston North/Manawatu region. However, in order to determine factors influencing discontinuation it is necessary to firstly understand individual participation motives. Hodge and Zaharopoulos (1991) argue that investigators must understand the link between the two issues in order to fully understand what motivates individuals' discontinuation from sport.

This research was carried out in three separate stages. The first stage of data collection took place at the end of the 2001 season, and nearing the end of the academic year, in late October, early November. The second stage was early in the 2002 season, in March – May and the final stage was near the end of the 2002 hockey season, in late August, early September. For the first stage of data, only information on participation was collected, as the researcher was simply sourcing participants who met the requirements of the study, whereas during the second and third stages of data collection, discontinuation data was also collected from participants who had played hockey in the 2001 year, however had since ceased participating.

The findings from this research will enable schools and associations in the Palmerston North/Manawatu region to better cater to the needs of young people during this transitional period. Previous reasons cited in research on the topic of sport participation and withdrawal will be discussed in subsequent sections of this report. These have been based on studies for sports in general and are dated results (Gill, Gross & Huddleston, 1983; Gould, Feltz & Weiss, 1985; Longhurst and Spink, 1987), therefore this study will offer current motives prominent in sport today, particularly in hockey. The discussion, which follows provides a general overview of the history of hockey from its introduction into New Zealand, and the various

hockey. The discussion, which follows provides a general overview of the history of hockey from its introduction into New Zealand, and the various changes and development phases which the sport has gone through.

Recent statistics put out by the Hillary Commission (recently renamed SPARC, Sport and Recreation New Zealand) indicate that in total, 42,500 young people, aged between 5 and 17 play hockey regularly, compared to 36,800 New Zealand adults (those aged 18 years and above) who play hockey regularly in New Zealand (Hockey facts, 2001). Research shows that there is a decrease of 25% in participation during the transitional phase from primary or intermediate school to secondary school, and a further decrease of approximately 21% in the 16 – 17 year old age group (Hockey facts, 2001).

Putting the above statistics into graphical form, Figures 1 and 2 below represent the percentage of young people who played hockey in New Zealand in 2001. The information has been broken down by gender (see Figure 1) and by age (see Figure 2) (Hockey facts, 2001).

Figure 1: Pie chart of young hockey players – by gender

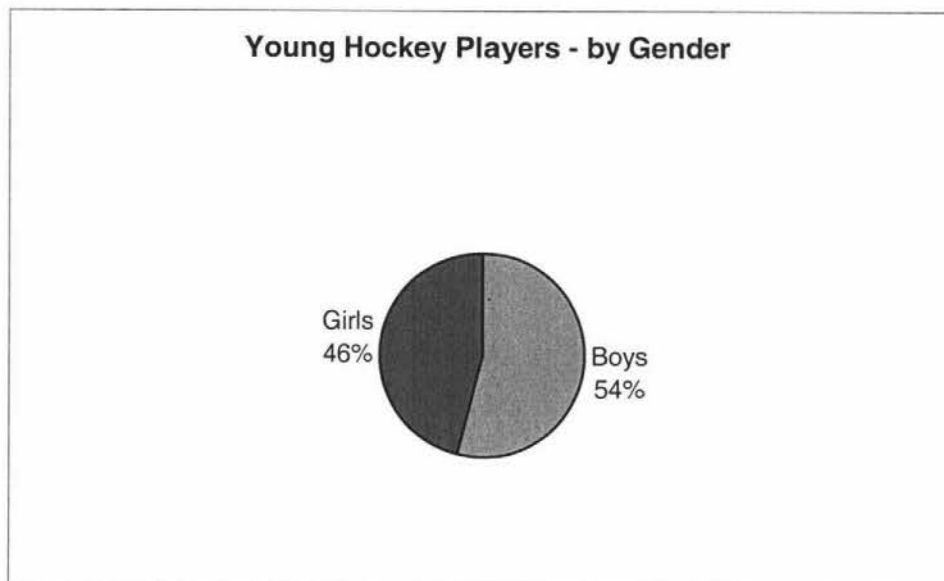
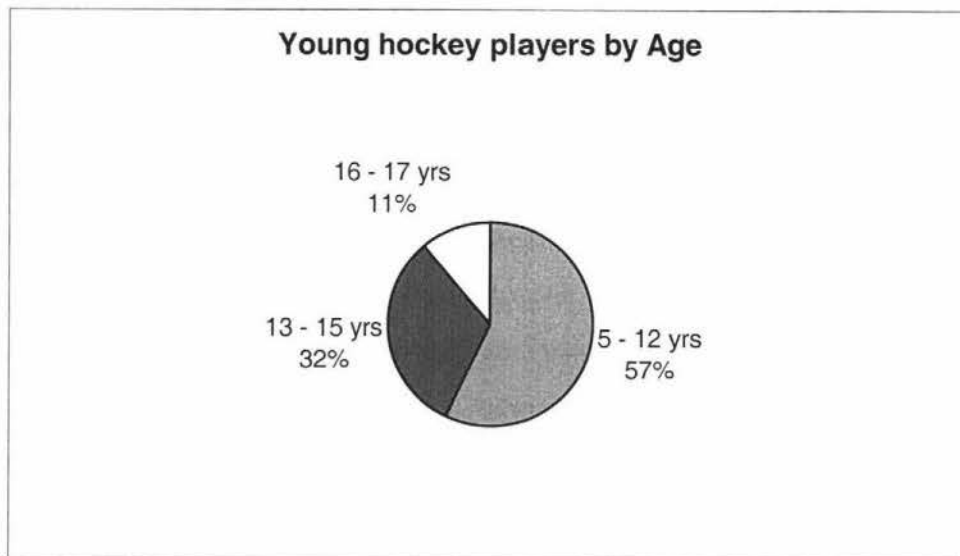


Figure 2: Pie chart of young hockey players - by age



Of the adult players involved in hockey, women consisted of 48%, while men made up 52% of those surveyed (Hockey facts, 2001). Adults from a range of ages play hockey, with the 18 – 24 year age group consisting of 25% of the total adult age group. This 18 – 24 year old group consists of those recent school leavers, who are entering the workforce or higher tertiary education institutions. The statistics for adult hockey players are represented below. Figure 3 by gender, and Figure 4 by age group.

Figure 3: Pie chart of adult hockey players – by gender

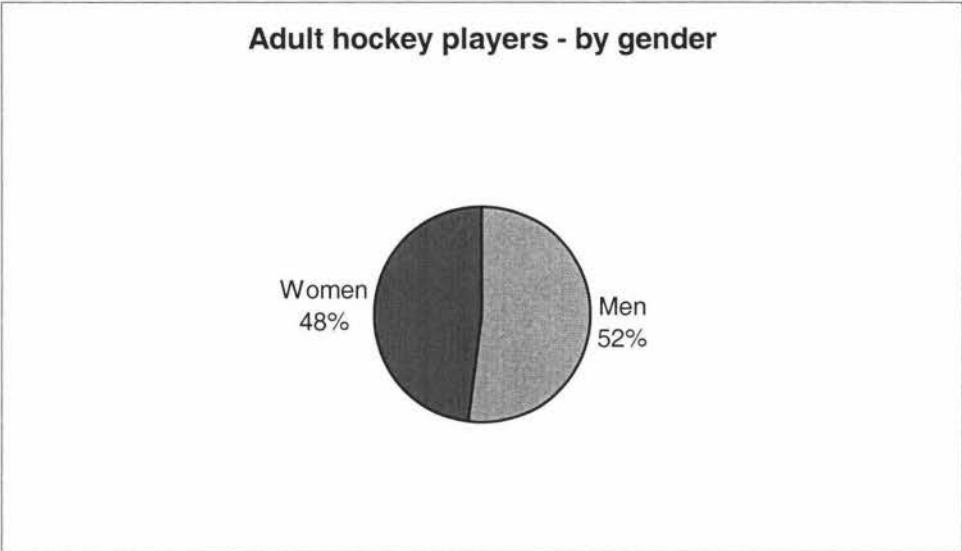
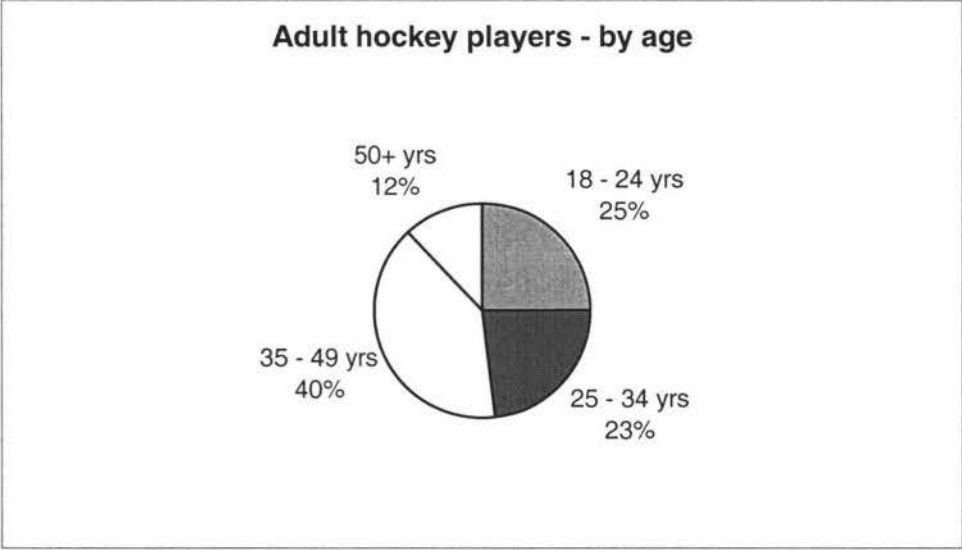


Figure 4: Pie chart of adult hockey players – by age



THE HISTORY OF HOCKEY IN NEW ZEALAND

It is likely that a sport resembling modern hockey was first played in public schools in England in the 18th century, however what is now referred to as hockey was first played in England in 1876. The sport continued to grow and in 1887 the first women's hockey club was founded in London (New Zealand Hockey Federation, 2001).

Hockey was introduced into New Zealand in the 1890's, by a Rev Mathias, who was also credited with organising the first games at Kaiapoi, situated north of Christchurch as early as 1895. Watson (2002) states that from the outset, both men and women played hockey, while for "women, hockey was one of the earliest team sports in which they were allowed to participate and act as administrators" (Watson, 2002). The first hockey club was started in Christchurch by a group of local women, with a men's hockey club being set up a year later in Ashburton (New Zealand Hockey Federation, 2001). In other parts of New Zealand, Watson (2002) found that hockey seemed to evolve from social encounters with improvised sticks and balls into an organised sport. For example, Dalefield School in the Wairarapa played hockey as early as 1896, when bushwhackers were used as hockey sticks and pinecones as balls (Watson, 2002).

The first decade of the nineteenth century saw both men's and women's hockey associations form. Rev Mathias, in 1902 called a meeting, which initiated the establishment of the New Zealand Hockey Association (New Zealand Hockey Federation, 2001), while 1908 saw the establishment of the New Zealand Ladies Hockey Association (NZLHA) (Watson, 2002). Hockey was played in Auckland in 1908, however was not readily adopted as a sport, because hockey was considered a rough game, with injuries occurring to shins and ankles (Coney, 1986). It was also in 1908 that men's field hockey became an Olympic sport, however it has only been as recent as 1980 that field hockey was made an Olympic sport for women (St Peter's, 2001).

Inter-provincial competitions have been played in New Zealand since 1908 with teams from both the North and South Island contesting these competitions (Watson, 2002). The first international series was played against Australia for men's hockey, in 1922, and it was not until 1935 that women had their first international game, which was also against Australia (Watson, 2002). In 1924 the International Federation of Hockey (FIH) was founded as the governing body for the men's game. 1927 saw the establishment of the International Federation of Women's Hockey Associations (IFWHA), to govern the women's game, while the 1930's saw changes to the name of the administrative body of women's hockey, from the New Zealand Ladies Hockey Association to the New Zealand Hockey Association (Watson, 2002).

The 1950's saw New Zealand teams make their first forays into international tournaments (Watson, 2002). The Olympic games in Melbourne in 1956 saw the New Zealand men's team compete and reach a placing of 6th. This was the first global competition that New Zealand had taken part in to date. The New Zealand men's team attended the 1964, 1968 and 1972 Olympic games, which saw mixed, results with final placings ranging from 13th place in 1964, 7th place in 1968 and 9th placing in 1972. The 1976 Montreal Olympic Games saw New Zealand credibly win gold over Australia in the final (New Zealand Hockey Federation, 2001). New Zealand boycotted the 1980 and Olympics and its last Olympic tournament was the 1992 Barcelona Olympics (New Zealand Hockey Federation, 2001).

The early 1970's saw the first international tournament being hosted in New Zealand, the tenth IFWHA Conference Tournament, held in Auckland (Watson, 2002). This was a boost for women's hockey in New Zealand, who had not had the same amount of competition internationally as the New Zealand men's side. The New Zealand women's hockey team has only played in the last three Olympic games, Los Angeles, Barcelona and Sydney. Like the men's team, they were denied a chance to play in Moscow. In 1988 the New Zealand Hockey Association and the New

Zealand Women's Hockey Association, amalgamated to form the New Zealand Hockey Federation, whereby the administration of the sport came under one umbrella.

The 1970's saw the introduction of artificial surfaces to hockey, which signified one of the most important transformations of the game. Up until the early 1990's only Wellington and Christchurch contained artificial surfaces (Watson, 2002), however since then there has been a significant development to domestic hockey in New Zealand, with as many as forty artificial surfaces being built nationwide (New Zealand Hockey Federation, 2002). At present the New Zealand Women's team is ranked 6th in the world, and the New Zealand Men's team is 9th.

THESIS OUTLINE

Chapter Two reviews previous research relevant to this study. The main theoretical frameworks reviewed are sport and sport motivation. The discussion then focuses specifically on sport participation and discontinuation, in both the youth and New Zealand context.

Chapter Three presents the research methodologies and data analysis procedures. Furthermore, issues pertaining to validity and reliability, as well as limitations to the research are discussed.

Chapter Four presents the findings from the current study.

Chapter Five discusses the findings in light of the research and existing theories regarding sport participation and discontinuation motives, as reviewed in Chapter Two.

Chapter Six identifies the key conclusions and implications, from the current research. It also outlines the limitations of the research, as well as making some suggestions for future research in the areas of sport participation and discontinuation.

This chapter will begin by looking generally at sport, both within New Zealand and around the world. This study will consider the sport motivation literature followed by the proposed theories behind sport participation motivation and discontinuation motivation.

GENERAL OVERVIEW OF SPORT

Sport is "fundamental to the New Zealand image and is seen as a distinct characteristic of New Zealanders" (Hillary Commission, 1993, p. 5). Sport provides a source of enjoyment, challenge, escape, pride and meaning for many individuals while for others sport is a source of alienation and conflict (Trenberth & Collins, 1999). Given the benefits of sport participation, it is not surprising that sports are so accepted among primary, intermediate and secondary school students, who are provided with diverse opportunities to participate through school (Hillary Commission, 1998).

The study of 'why' people participate in, or cease participating in sport is an important area of research within the field of sport motivation (Weiss and Chaumeton, 1992). Despite extensive research being undertaken overseas, little research has been conducted in New Zealand on both participation and discontinuation motivation, which highlights the importance of the current research and the information that it is hoped, will be obtained. Although an extensive study has not been carried out on New Zealanders, research on sport participation has been conducted in the form of unpublished research on specific sports (Hodge & Zaharopoulos, 1991; Gaskin, 2000; Galvan, 2000; Teevale, 2001; Hirst, 2001), which will be highlighted throughout this chapter.

A recent study on the participation levels within New Zealand sports by the Hillary Commission (1998) showed that the majority of young people (93% - 661,000) take part in some form of sport and physical activity. Participation rates were high for both boys (95% - 346,000) and girls (91% - 316,000). Younger children, aged between 5 and 15 years showed an even higher level of participation (98% +). However, 16 - 18 year olds had a noticeably lower rate of participation at 81% (Hillary Commission, 1999). This decline in participation levels at around 16 – 18 years old poses a problem for New Zealand sport, as it is at this time that most secondary school students face a transitional phase from school to the workforce or higher educational institutions. By gaining a greater understanding of the reasons why young people participate, or discontinue playing sport during this critical phase will help practitioners create programs, which will more successfully recruit and retain participants.

The Hillary Commission (2000) refers to school leavers as being 16 – 17, however it is more common these days for school leavers to be older, around 18 years of age. Statistics show that secondary school students have a strong involvement in sport and active leisure, however there is a noticeable drop-off among these 16 – 17 year olds. Possible causes are the increasing demands of study, after school and weekend work and the obvious reality that people are leading busier everyday lives (Hillary Commission, 2000). Lifestyle changes have resulted in the traditional five-day working week moving to a seven-day working week, which has had a significant impact on weekend sport. There are also changing work patterns, such as more women entering the workforce, increasing financial pressures such as student loans effecting young people, as well as competing sporting opportunities available to individuals (Trenberth & Collins, 1999).

Sport is seen to promote attributes of fair-play and sportspersonship; enhance self-concept, foster team environments, and create an atmosphere of challenge and adventure (Gill, 2000; Horn, 1992; Weinberg & Gould, 1999). It is the attributes listed above which help create the passion and

excitement seen in sport, both for players and spectators (Weinberg & Gould, 1999), from those participating at an international level to those heading out on frosty Saturday mornings to wet and muddy fields. The current research attempts to determine the major motives, which youth hockey participants cite for participating in and discontinuing participation in hockey.

OVERVIEW OF SPORT MOTIVATION

The study of motivation identified by Roberts (1992) is an investigation of the energisation and direction of behaviour. Motivation is ultimately concerned with the 'why' of behaviour. Roberts (1992) states "typically in research literature, motivation refers to those personality factors, social variables and/or cognitions that come into play when a person undertakes a task at which he or she is evaluated, enters into competition with others or attempts to attain some standard of excellence" (p.5). Motivation can be broken down for the purpose of this research into two areas, motivation to participate in hockey or motivation to cease participation in hockey. These two areas of research will be considered in more depth in subsequent sections of this chapter.

Each individual has a perspective on how motivation works and a theory on what motivates people. For example, the situation individuals find themselves in, and the traits displayed by individuals (Weinberg & Gould, 1999). Understanding the motives youths possess for participating in sport or ceasing participation in sport has been a topic of concern for youth sport leaders, coaches and sport psychologists for well over a decade (Gould & Petlichkoff, 1998). During the 1970's researchers became concerned with the level of withdrawal in youth sport programs. Therefore, the need arose to better understand the motives young people cite for pursuing sporting opportunities, which in turn will aid in eliminating the level of attrition and will help researchers understand which areas of sport or sport psychology need more attention within the sport environment. The resulting findings have led

to an increased knowledge and understanding by researchers in sporting contexts, of participants and their motives for playing sport, along with what factors may have contributed to participants withdrawing from sport.

Previous research conducted on motivation has been both generic and sport specific, with the majority of studies occurring between North American and Canadian populations (Wankel & Kreisel, 1985; Horn, 1992; Gill, 2000). From this research it has been noted that participants cite multiple motives for sport motivation, not all of which are the same for everyone, as people have both shared and unique motives. It is important to remember that peoples' motives for participating in sport can and often do change over time, as lifestyles and situations alter.

Descriptive research has been the focus of many studies in determining the major motives, which youths cite for participating and discontinuing participation in sport (Gould, Feltz, Horn & Weiss, 1982; Gould & Horn, 1984, cited in Smoll, Magill & Ash, 1988; Gould & Petlichkoff, 1988; Gaskin, 2000; Teevale, 2001). Subsequent studies have considered the motives youths cite for participation and discontinuation in sport. Motives cited as important to participation motivation are to improve skills, have fun, be with friends, experience thrills and excitement, achieve success and develop fitness (Gould & Petlichkoff, 1988; Gaskin, 2000; Teevale, 2001). Reasons cited for discontinuing playing sports, identified within research include conflicts of interests, lack of play time, lack of success or skill improvement, competitive stress, lack of enjoyment, dislike of the coach, boredom or injury, pressure, and wanting to play another sport (Orlick, 1974; Boothby, Tungatt & Townsend, 1981; Pooley, 1981; Gould et al., 1982; Brustad, 1993; Burton & Martens, 1986; Ryckman & Hamel, 1993).

Previous New Zealand based research carried out by Hodge and Zaharopoulos (1991) focused on both rugby and netball. They studied motives of secondary school students in varying teams and similar to overseas studies sought to establish the motives of participants, for continuing to participate in specific sports or motives for ceasing

participation in specific sports. High school students were studied in both sports and results for netball players indicated that the most important reasons for participating were skill improvement or skill learning, to increase fitness, have fun and achieve goals set previously. The rugby research provided similar results, with minimal variances seen in the reasons cited as most important for participation.

Research carried out by the Hillary Commission in 1993, looking at participation in sport and the physical education of secondary school students, recognised the main sporting appeal for these students was enjoyment, fun, friendship, enhancement of team environments, to improve skills and challenge for health. The same research highlighted that students less interested in sports were less interested due to a lack of awareness of the options available to them. Attributes of these students, revealed through the research, indicated individuals were shy or lacked encouragement, that individuals harbored feelings of not being good enough, thinking sport was too competitive or that there were few interesting programs available to participate in.

More recently, Gaskin (2000) investigated participation motives for youth cricketers within the secondary school system in New Zealand and identified motive differences between gender and age groupings. Male cricketers rated 'skill' and 'competition' items above their respective female ratings, which thought 'team' motives were more important. Younger males in the Gaskin's (2000) research ranked skill development more highly, whereas girls ranked items that described aspects of belonging to a team more highly. Players nearing the end of secondary school emphasised competitive motives more, with skill development motives not being as prominent as with the younger players.

ASSUMPTIONS SURROUNDING MOTIVATION

Two related motives, which are said to effect performance and participation in sport as stated by Weinberg & Gould (1999) are achievement motivation

and competitiveness. Achievement motivation refers to a person's orientation to strive for task success, persist in the face of failure, and experience pride in accomplishments (Gill, 1986). Achievement motivation in sport is commonly called competitiveness. Competitiveness defined is a "disposition to strive for satisfaction when making comparisons with some standard of excellence in the presence of evaluative others" (Martens, 1976, cited in Weinberg & Gould, 1999, p. 57).

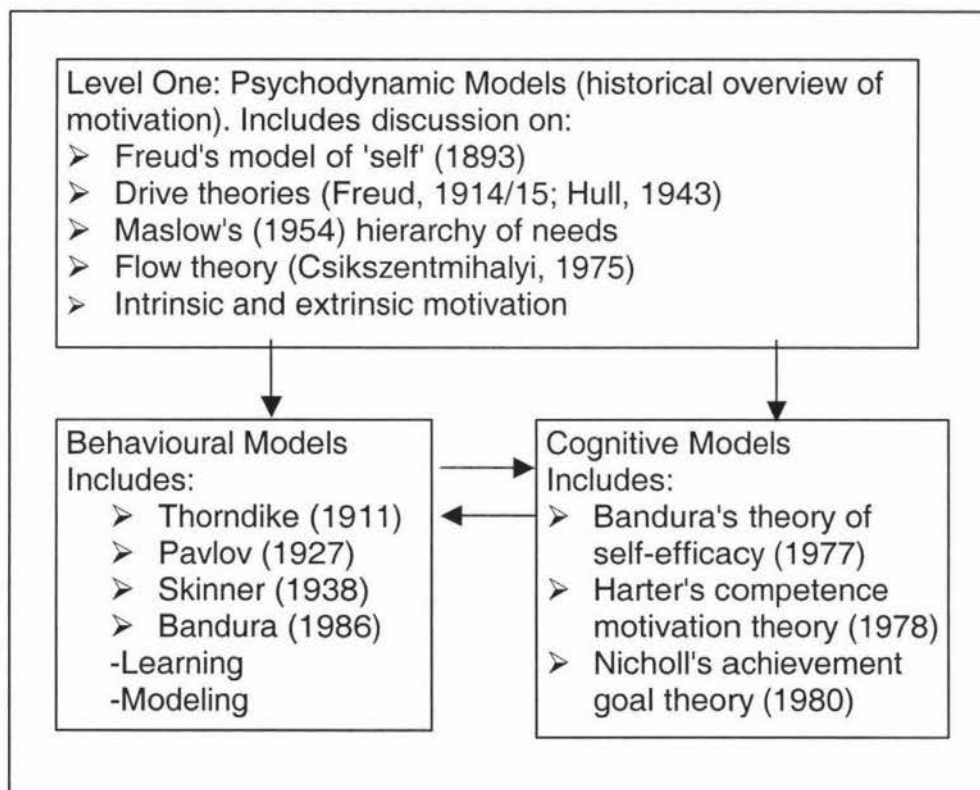
In achievement contexts, whether at regional, national or international level, empirical evidence suggests that motivation is a complex phenomenon. According to Roberts (1992) motivation is a poorly understood area by practitioners of sport coaching. A common misunderstanding surrounding motivation is that motivation and arousal are one and the same. Many coaches assume that player motivation is increased through the pre-game locker room talk, resulting in athletes producing a better on field performance (Roberts, 1992). A further misunderstanding involves what coaches' call 'positive thinking'. Although a limited amount of evidence suggests that holding certain expectations for oneself can affect achievement behaviour, if expectations are not realistic, then there will be little (if any) long-term benefits (Roberts, 1992; Martens, 1997).

The final common misunderstanding identified surrounding motivation, is that some coaches believe motivation originates within a player, that motivation is simply a given state of that particular individual. Such a misunderstanding has caused some coaches to misjudge their players (Martens, 1987). For example, if a player is seen to be low in motivation, coaches disregard that this state of motivation can and does change. Such an attitude by coaches has lead many coaches to 'give up' on individuals. Roberts (1992), however, points out that such misconceptions are grounded in half-truths, and fail to come close to explaining the complex phenomenon, which surrounds motivation in sport and exercise.

THEORIES OF MOTIVATION

This chapter will consider some of the key motivation theories, and relate these to the sporting context. Three models will be discussed with reference to participation motivation and discontinuation motivation in sport. The three proposed models are the psychodynamic model, the behavioural model, and the cognitive model. Within these models, theorists who have made significant contributions will be identified and the ways in which their work has shaped the outcomes of these models.

Figure 5: Structure of discussion on motivation in sport



The psychodynamic model is the earliest model of motivation, which evolved from Freud's (1893, cited in Erwin, 2001) work on psychoanalysis. The behavioural and cognitive models have been important in shaping motivation and although each provides a different perspective on motivation, they also convey important links to each other and to sport.

The Psychodynamic Model

Psychodynamic models account for how thoughts, actions and feelings are derived and are based on Freud's conceptualisation of the role of the unconscious and the dynamics of a person's psychosexual development. Freud believed that personality and motivation were based on dynamic interactions between three basic components of human psychology (1933/1964) the id, the ego and the super-ego (Fine, 1979). Defined, the id constantly seeks pleasure to fulfill biological drives and cravings of the body, primarily sexual drives and aggression, while the ego performs a balancing act between fulfilling the id's drive for pleasure and dealing with the restrictions imposed by reality (i.e. laws, morals) (Matlin, 1992; Carlson & Buskist, 1997). Lastly, the super-ego provides a further barrier for pleasure satisfaction and "judges the ego's efforts in controlling the id and measuring up the morals, values and cultural ideals of society" (Hill, 2001, p.3)

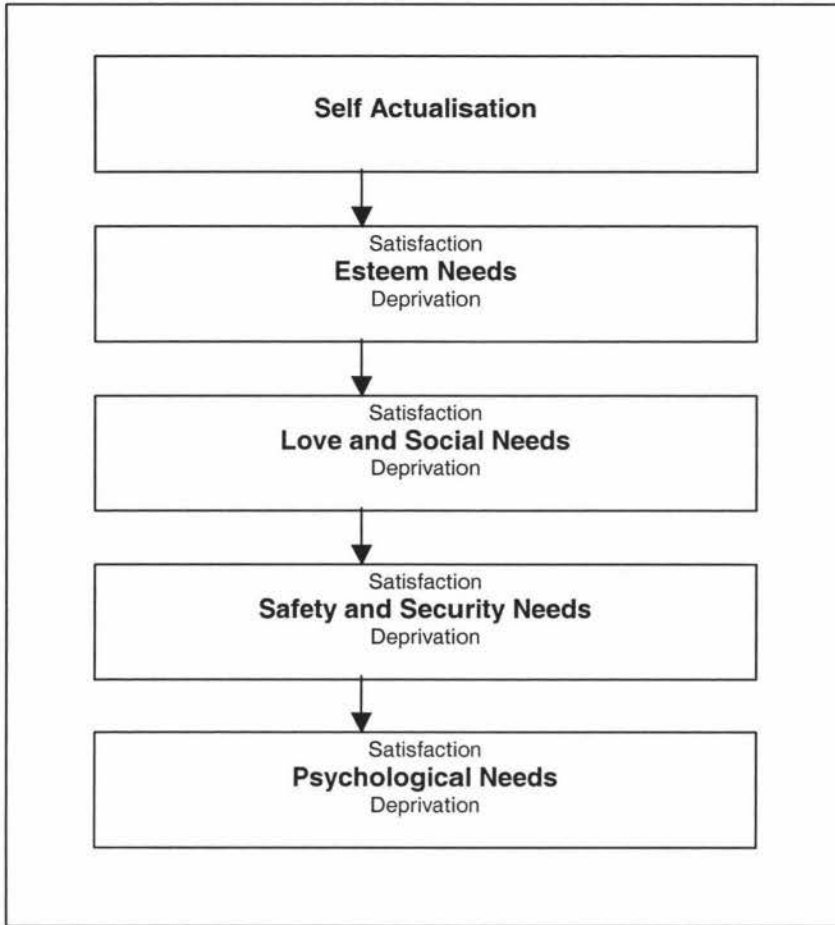
Much of this internal interaction occurs within the unconscious part of the mind and is therefore not recognised by the individual (Carlson & Buskist, 1997). Within this unconscious area, Freud believed painful thoughts, events, emotions and disturbing mental pictures are repressed, supposedly for self-protection. Defense mechanisms are often employed to handle internal conflicts. These "are recurring patterns of thinking which protect the person from anxiety by repressing conflict issues in the unconscious or distorting reality to disguise the conflict in a less threatening form" (Hill, 2001, p. 6).

Further contributions to the psychodynamic model, are drive theories, flow theories as well as intrinsic and extrinsic motivation. "All behaviors are said to be motivated directly by a drive or some derivative thereof" (Deci & Ryan, 1985, p. 4). Drive theories revolve around two important drives, proposed by Freud in 1914/1915, sexual drive and aggression. Three decades after Freud's theory, "Hull (1943) asserted that there are actually four drives, hunger, thirst, sex and avoidance of pain" (Deci & Ryan, 1985, p.4).

A further early contributor to motivation was Abraham Maslow who introduced need-based theories. Chelladurai (1985, p. 108) states, "when a need is deprived, the individual is aroused and driven to seek the source of satisfaction of that need and take action to achieve satisfaction". Maslow proposed the hierarchy of needs, which contained five categories of needs in order of importance to an individual. These are physiological needs, safety and security needs, love and belonging needs, esteem needs and self-actualisation needs (see Figure 6).

In terms of physiological needs, Maslow (1954) stated that it is impossible to make a list of physiological needs, as the list can be as long or short as one wishes, depending on the degree of specificity of description. In short, physiological needs relate to the requirements of the human being (e.g. food, and shelter). Safety needs refer to individuals feeling safe and in control of their world, and where unmanageable events do not occur. Love needs represent desires of people for friendship and interactions with others, which are accepted by others (Chelladurai, 1985). Esteem needs relate to a person's desire for a stable, usually high evaluation of themselves for self-respect, self-esteem and for the esteem of others (Maslow, 1954); while self-actualisation needs refer to individuals operating at a level and endeavoring to become everything they are capable of becoming.

Figure 6: Maslow's hierarchy of needs



Source: (Chelladurai, 1985, p. 111)

Jackson and Csikszentmihalyi (1999) define flow as a "state with universal qualities that is experienced by people in a wide range of contexts" (p.5). In 1975, Csikszentmihalyi talked about the flow state as being "that peculiar, dynamic, wholistic sensation of total involvement with the activity itself" (cited in Deci & Ryan, 1985, p. 29). It is a state of consciousness where people are involved in an activity where nothing else seems to matter (Csikszentmihalyi, 1990). A state where an individual is totally absorbed in what they are doing and blocks out other thoughts, emotions and distractions thus the focus is completely on the task. Jackson and Csikszentmihalyi (1999) refer to the state of flow as being a "harmonious experience where mind and body are working together effortlessly" (p. 5).

A further theory regarding motivation surrounds intrinsic and extrinsic motivation. Individuals said to be intrinsically motivated have an inner drive where they strive to be competent and self-determined to master tasks and be successful (Martens, 1987). Alternatively extrinsic motivation comes from other people through positive and negative reinforcement. Such reinforcement may be tangible (trophies or money) or intangible (praise or public recognition). Not all athletes play sport purely for either intrinsic or extrinsic rewards, although some play for both.

Maslow's hierarchy of needs can be considered along with intrinsic and extrinsic motivation. Within Maslow's hierarchy of needs, Martens (1987) stated that deficiency-based needs are more easily satisfied; therefore they lose power to reward an individual. Similarly in sports, trophies, medals, money and other forms of extrinsic rewards tend to lose their power to reward more rapidly than intrinsic rewards, such as feeling competent and satisfied.

The assorted concepts contained in the psychodynamic model were some of the earliest contributions to the theory of motivation and were based around developing motivation, and not based on sport motivation and development in the sporting area. These concepts however, are highlighted within theories adopted by other researchers who also were similarly studying motivation, either in sport or within a broader motivation environment. Following on from the psychodynamic model are the behavioural model, and cognitive models, both of which can be applied and have been used within sporting environments.

The Behavioural Model

The behavioural model focuses on conditioning or learning from the environment as the force that shapes a person. Contributors to this model include Thordike (1911), Pavlov (1927), Skinner (1938), and Bandura (1986) who were convinced that learning from the environment, not the unconscious inner life, determined people's actions. Behaviorists believe

that learning in the form of classical, operant and socio-cultural conditioning shapes people, and as "normal and abnormal behaviors can be learned, they can then be unlearned" (Hill, 2001, p.26).

Pavlov (1927) examined classical conditioning, by using stimuli to produce the required response over time with dogs. Skinner in the early 1950's studied operant conditioning, whereby he associated the behaviors with consequences. Skinner determined that "behaviors are learned through coincidental reinforcement or punishment following specific behaviour through shaping" (Hill, 2001, p.29). Observational or vicarious learning sees humans learning by observing others. For example, if an individual experiences a positive outcome from behaviour, it is likely the individual will model this behaviour at a later stage.

Skinner (1976, p. 51) declared, "when a bit of behaviour has the kind of consequence called reinforcing, it is likely to occur again". In saying this, a person may have participated in a game and due to the consequences of that game may have continued playing. It may also have been behaviour adopted due to observing (or imitating modeling) siblings, parents, or friends participating. Bandura (1986) and other social behaviorists refer to peoples' capacity to imitate or model others as social learning, due to the importance of other people in the learning process.

Much of the work carried out by Bandura (1986) links into both the behavioural model and cognitive models of motivation. His work stems from inquiry toward how individuals learn. In behavioural terms, two main elements arise from Bandura's (1986) work; firstly Bandura linked learning to response consequences, such as, that people are influenced by whether an action produces a positive or negative effect. The second element of Bandura's work is the importance of modeling or imitating the work and actions of others. If others had to learn everything independently, every action would be laborious, however, as pointed out by Bandura (1986) most human behaviour is learned observationally, through modeling. Bandura's links with the cognitive model will be highlighted below.

The Cognitive Model

Cognitive models maintain that thought patterns and mental habits are the primary forces in determining behaviour and feelings. Within cognitive perspectives, theorists place emphasis on mental processes such as attributions, cognitive patterns, perceptions and memory. Hill (2001, p. 63) stated that although cognitive theory began in opposition to the behavioural theory, in practice the two theories are compatible and are often employed together in treatment. Contributions to the cognitive model are Bandura's theory of self-efficacy (1977), Harter's competence motivation theory (1978), and Nicholls' achievement goal orientation theory (1984).

Bandura (1977) described self-efficacy as the conviction one needs to successfully execute the behaviour necessary to produce a certain outcome. "Perceived self-efficacy is defined as peoples judgments or their capabilities to organize and execute a course of action required to attain designated types of performances" (Bandura, 1986, p. 391). Self-efficacy is not concerned with an individual's ability or the skills they possess. It is more concerned with the assessment which the individual makes about what he or she can do with his or her ability, and the judgments of what they can do with those skills (Bandura, 1986; Roberts, 1992).

Bandura (1997) suggests that self-efficacy expectations are the primary determinants of the choice of activity, level of effort and degree of persistence. People high in self-efficacy seek challenges, try hard and persist in their task, while people low in self-efficacy tend to give up easily, avoid challenges and become depressed or anxious when faced with difficulty (Gill, 2000). Bandura's (1977) model appears simplistic in that self-efficacy is a situation specific form of self-confidence, or a belief that the person is competent and can do any task required in a specific situation (see Figure 7). It is important to note that while self-confidence is a personality state, self-efficacy can vary greatly (Weinberg & Gould, 1999).

Bandura's theory distinguishes between efficacy beliefs and outcome beliefs. Efficacy beliefs pertain to an individual's judgement of their 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). Gill (2000) and Duda (1998) further state that efficacy expectations change and develop through four types of information - vicarious experiences, personal accomplishments, verbal persuasion and emotional arousal, with changes in self-efficacy influencing behaviour. Weinberg & Gould (1999) suggest that two further sources of information are imaginal experiences and physiological states.

The diagram below highlights the relationship between major sources of efficacy information, efficacy expectation and the behaviour and thought patterns as predicted by Bandura's theory. An assumption made about the theory of self-efficacy is that individuals are capable of exercising control over thought processes, motivation, and behaviour, thus their foundation in self-referent thought (Bandura, 1986). Peoples' perceptions that they can successfully perform a behaviour increase the likelihood that they will engage in the behaviour, thus self-efficacy has been shown to be a good predictor of behaviour, such as ceasing smoking. Feltz (1992) reports that although the theory is not without its critics, a reliable, noteworthy relationship has been found between self-efficacy and performance.

Figure 7: Bandura's Self-Efficacy Model

(cited in Gill, 2000, p. 79)

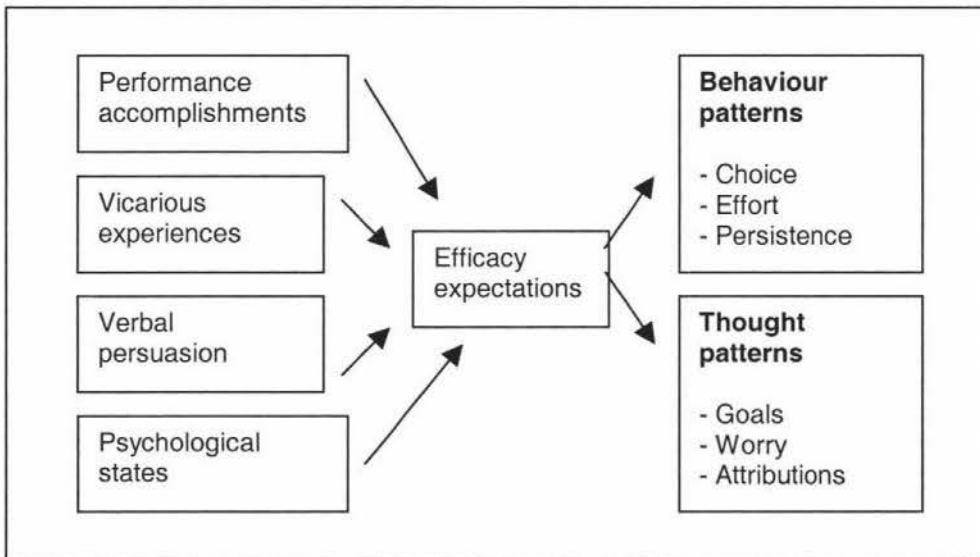
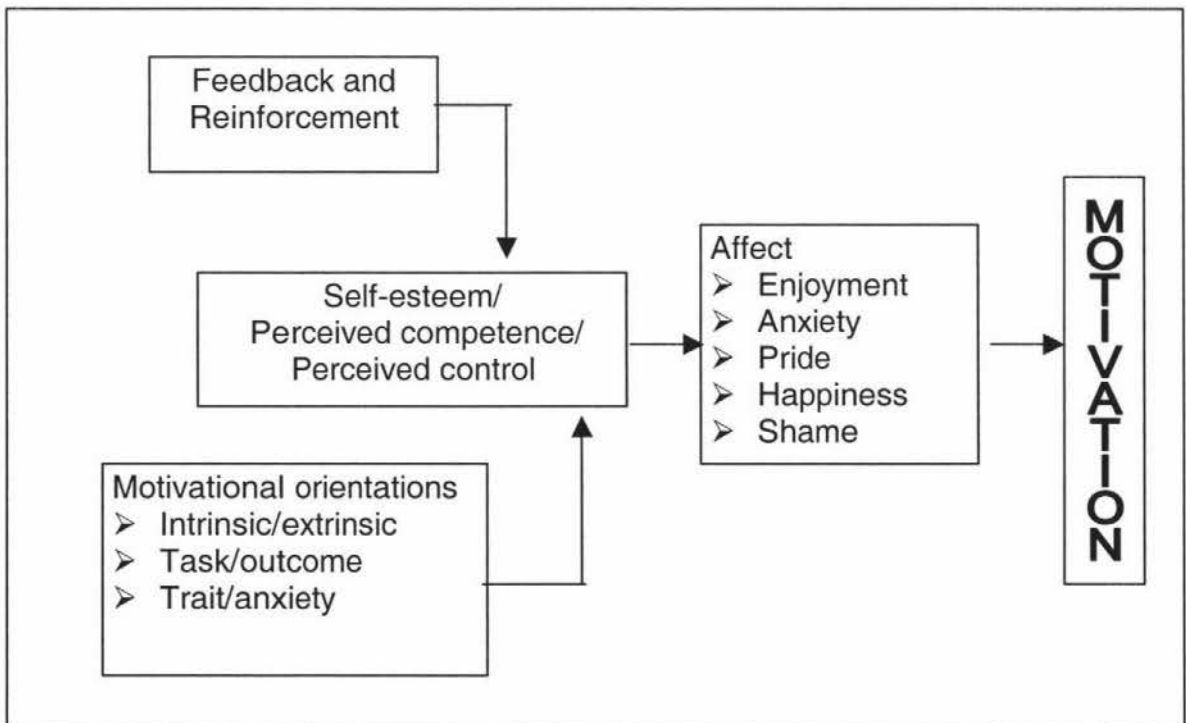


Figure 8: Harter's Competence Motivation theory



Adapted from Weiss and Chaumeton, 1992

Harter's (1978) competence motivation theory asserts that people are motivated to feel worthy or competent, and that athlete's perceptions of control, work along with self-worth and competence evaluations to influence their motivation (Weinberg & Gould, 1999). Central concepts of this theory are perceived competence and perceived performance control. Figure 8 above provides an outline of the competence motivation theory model. Perceived competence is seen as a feeling of mastery or proficiency based on prior accomplishments and is a reflection of peoples' skills and achievements (Hill, 2001). Harter's (1978) model proposes that individuals are motivated to demonstrate competence through mastery attempts in three general skill areas, cognitive, social and physical.

Underlying constructs of this model are that individuals are motivated to feel competent and worthy, however individuals do not always feel competent and worthy. Individuals do not always feel competent and in control of situations, thus the outcome cannot always be a feeling of enjoyment, anxiety, pride and happiness as the model depicts. Furthermore the model appears to be very simplistic in how to reach the feelings of self-esteem, competence and control, while in reality, to reach these states can take far greater interactions than is shown in the model. To reach a state of perceived competence and control individuals must first perceive themselves to have strong abilities and worthiness, thus until this occurs, individuals may have low self-esteem.

According to Harter (1978), individuals are motivated to demonstrate competence at performing tasks and in doing so engage in mastery attempts in achievement contexts. For example, if an individual is successful in demonstrating mastery, the result is a continued motivation to participate (Lindner & John, 1991). This is due to the positive feelings that evolve from the experience and the feelings of worth. In contrast, if an individual feels they have not mastered certain skills, or not achieved a successful experience, they may be inclined to cease further participation in that sport.

The achievement goal orientation theory by Nicholl's (1984), similar to Harter's competence theory states that in order to understand a person's motivation, it is necessary to first understand what success and failure mean to that person. Based on this reasoning, three types of achievement goals have been defined: ability-orientation, task-orientation and social approval-orientation.

These achievement goals depend on how people think about or define competence. Ability-orientation is where an individual participates in an activity in order to demonstrate superior skill and competence compared to others. In task-orientation, the focus is on what they are doing and concerned with how they are improving in overall skills, while possibly using feedback to improve on their past performance. Finally, social approval-orientation, sees individuals participating to gain approval and acceptance from significant others, normally by focusing on effort as opposed to outcome.

The reasons why people start participating in sport can link directly to whether or not they continue participating in sport. According to Nicholls's (1980) achievement goal orientation theory, people participate in sport for one of the following three reasons, achievement goals, perceived ability and achievement behaviour, all these three reasons are linked to how they determine success and failure. Similarly, Bandura's (1977) self-efficacy theory considers how people rate their skills and abilities as an indicator of whether they will continue participating in sport. Research examining the relationship between achievement goals and participation however, is sparse, and advances to the theory have not been made due to a lack of operational definitions for concepts such as ability, task difficulty and effort (Weiss & Chaumeton, 1992).

A motivational model of youth sport participation proposed by Gould (1988, cited in Smoll, Magill & Ash, 1992, p. 167) shows a combination of findings from descriptive and theory based studies, which had been conducted prior

to 1988. Figure 9 provides Gould's (1988) Motivational Model of Youth Sport Participation. Component one of the model depicts the motives stated as being most important for becoming involved in sport. They have been further broken down in the model to incorporate those deemed as personal motives, in either the psychological or physical sense and those deemed to be situational motives. The second and third components of the model consider cost-benefit analysis and sport involvement.

A further model proposed by Gould (1987, cited in Smoll et al, p. 163)(see figure 10) depicts an analysis of youth sport withdrawal and is composed of three interrelated components, which represent different aspects of the sport discontinuation process. An important aspect of the model is the emphasis placed on defining the underlying process of withdrawal, rather than solely examining the end results (those who have dropped out of sport). Figure 10, outlines Gould's (1987) Motivational Model of Sport Withdrawal. Component one of the model depicts the several types of withdrawal an athlete may experience, while component two and three considers the cost benefit analysis and the motivational explanations for sport withdrawal.

Figure 9: A Motivational Model of Youth Sport Participation

(Gould, 1988, cited in Smoll, Magill & Ash, 1992, p. 167)

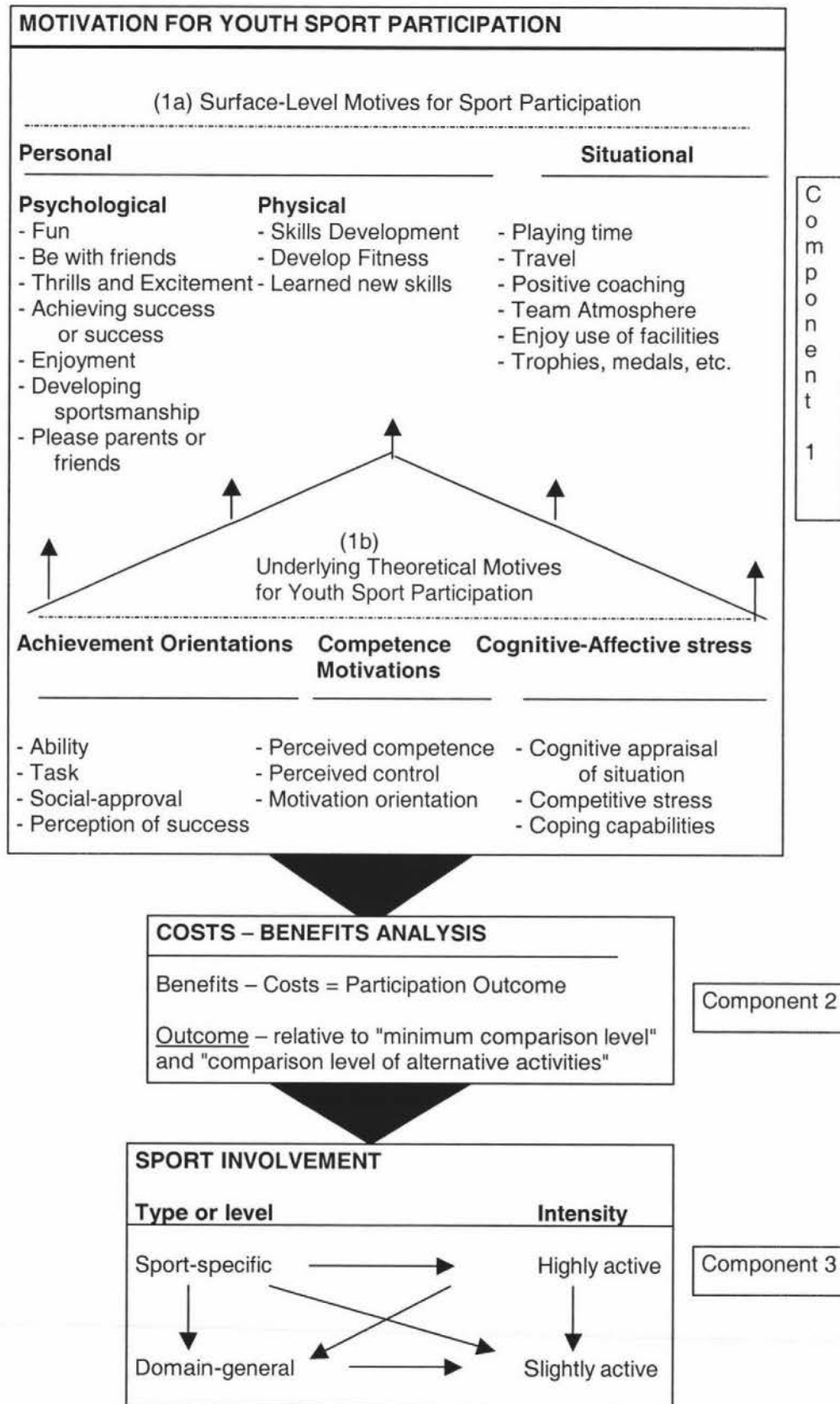
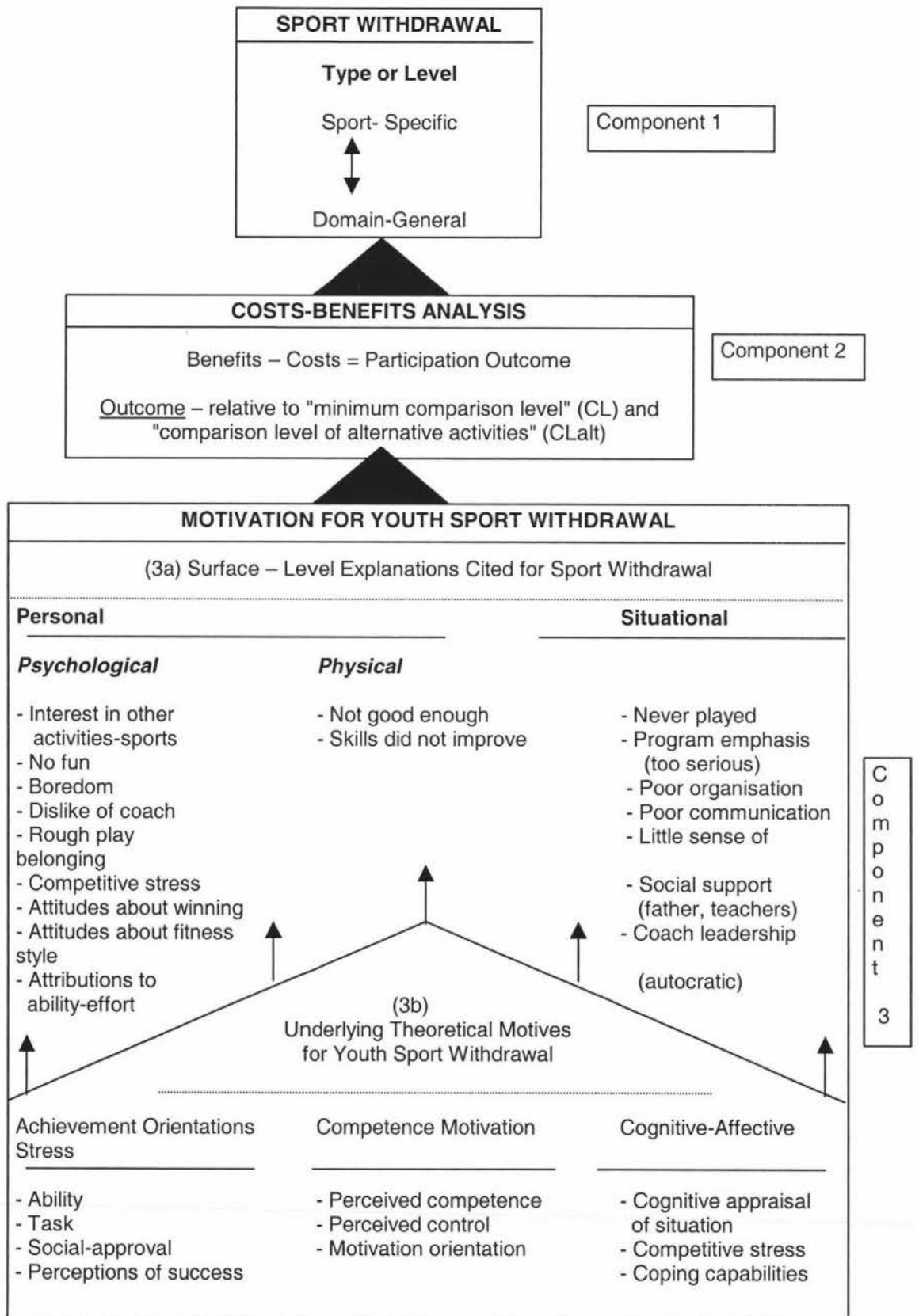


Figure 10: A Motivational Model of Youth Sport Withdrawal

(Gould, 1987, cited in Smoll, Magill & Ash, 1992, p. 163)



Examinations of the youth sport participation and withdrawal models which Gould provides as shown in Figures 9 and 10 each reveal that young athletes' motives for both participation and withdrawal can be explained by the same processes and are influenced by a common set of factors (Gould and Petlichkoff, 1992).

An additional model provided by Weiss and Chaumeton (1992, cited in Horn, 1992), which also conducted a review of participation motivation literature, is presented in Figure 11. The proposed model starts at the bottom by considering the motivational orientations of individuals, then proceeds to mastery attempts and performance outcomes, feedback and reinforcement by significant others and reward system and goals. The core of the model is focused on the use of internal criteria for reinforcement and mastery goals, versus the dependence on external approval and goals defined by others. These factors may influence the individual's perceptions of competence and control, with both positive and negative outcomes. The model reflects the integration of the two views of motivation; the starting point represents motivation orientation as an individual difference factor, while the end is represented by motivated behaviour as an outcome variable. Various hurdles lie between the start and end points that individuals must overcome in the "pursuit of intrinsically motivated behaviour and high level of sport persistence" (Weiss & Chaumeton, 1992, cited in Horn, 1992, p. 89).

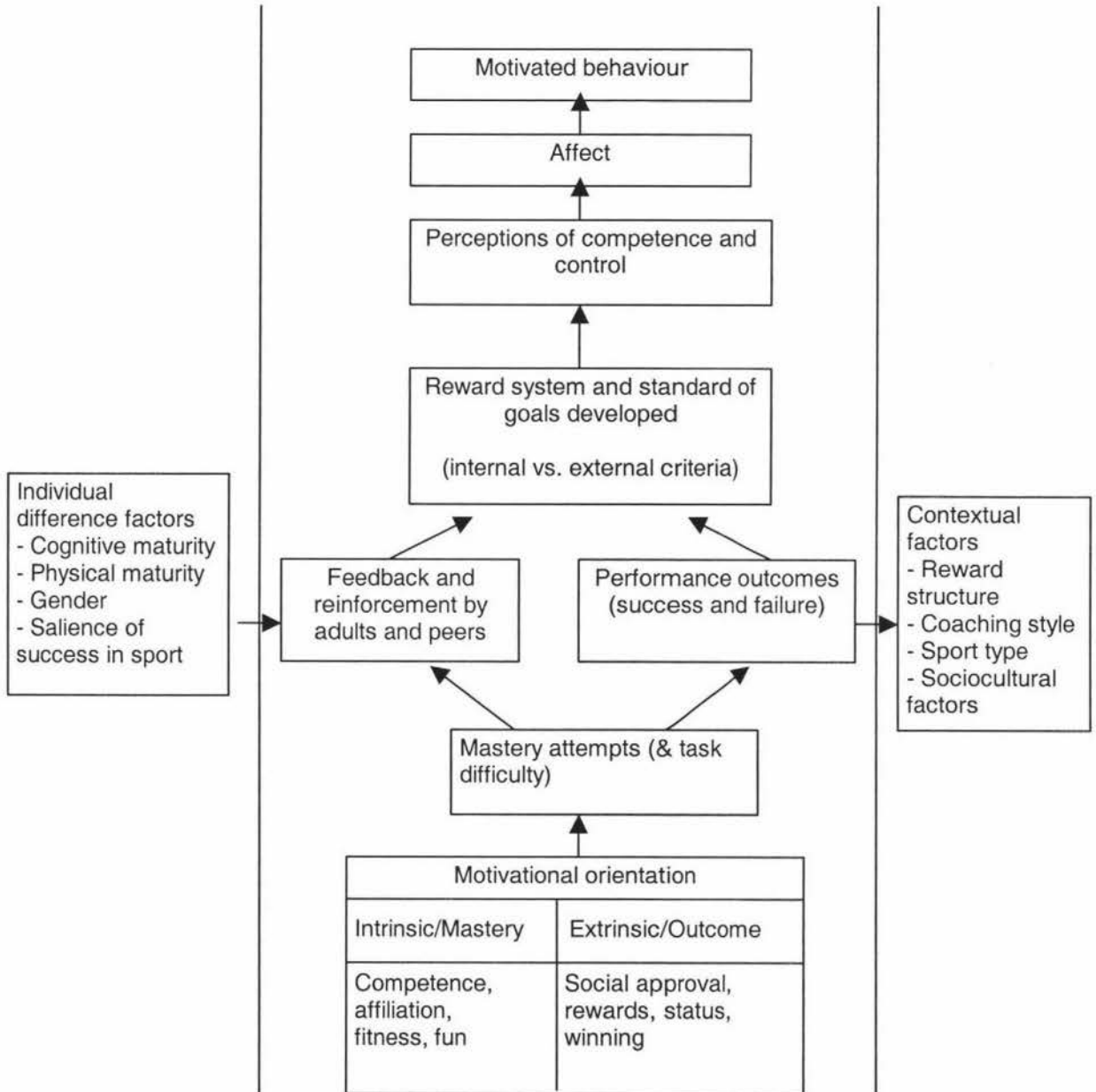
In conclusion, it can be seen that human behaviour is highly variable and individual differences in terms of needs and personality are numerous. Participation motivation in sport is a complex phenomenon, which can be approached from a range of theoretical perspectives. It should also be noted that none of the theories discussed above serve as a single framework that can be applied in all circumstances. The aim of the current research is to identify reasons why current secondary school leavers continue participating or discontinue participating in hockey within the Palmerston North/Manawatu region.

The most influential theory for studying youth sport participation motives and youth sport discontinuation motives has been Harter's (1978) competence motivation theory, as discussed above. Central to Harter's competence theory are the constructs of perceived competence and perceived performance control. The underlying conceptual framework of Harter's theory is particularly attractive for applications to sport, with several studies having provided support for its suitability to the physical domain (Gould et al., 1982; Klint and Weiss, 1987; Paterson, 1999).

Although most of the theory based research in the participation and discontinuation motivation area has been based on Harter's (1978) competence motivation theory, Nicholl's (1980) achievement goal theory has also provided a backdrop for participation motivation and discontinuation studies. According to the achievement goal theory, individuals are primarily motivated by one of three goal orientations: ability, task and social approval orientations. Harter's model has been used in research due to the success seen in a variety of studies (Gould et al., 1982; Roberts, Kleiber & Duda, 1981; Smith, 1998). The competence model has been used in research (Gould et al., 1982; Weiss & Chaumeton, 1992; Paterson, 1999) similar to the current study looking at individuals participation motives and discontinuation motives therefore it was a reliable choice for the current research.

Figure 11: A Proposed Integrated Model of Sport Motivation

(Weiss and Chaumeton, 1992, p. 90)



APPROACHES TO SPORT MOTIVATION

Research into participation and discontinuation motives was prevalent during the 1980's, particularly overseas (Gould et al., 1985; Gill et al., 1983). There have, however, over the last decade been an increasing number of studies carried out in New Zealand on sports, and motives for sports participation and discontinuation (Hodge & Zaharopoulos, 1991; Gaskin, 2000; Hirst, 2001; Teevale, 2001). Research today is probing deeper into sports participation motivation and sports discontinuation motivation, by carrying out research on specific sports and doing longitudinal research as opposed to one-off studies. The following discussion considers the literature surrounding participation motivation in sport in the youth sport context internationally, as well as research carried out within New Zealand.

PARTICIPATION MOTIVATION LITERATURE

Participation motivation refers to reasons which individuals provide for initiating, continuing and sustaining involvement in sport and physical activity, along with reasons why individuals choose to discontinue their involvement (Weiss & Chaumeton, 1992). During the past two decades, descriptive studies of participation motivation have been extensive (Gill et al., 1983; Gould et al., 1985; Klint & Weiss, 1986, Longhurst & Spink, 1987; Brodtkin & Weiss, 1990; Hodge & Zaharopoulos, 1991; Ryckman & Hamel, 1993; Buonamano, Cei & Mussino, 1995; Hayashi, 1999; Galvan, 2000; Gaskin, 2000; Teevale, 2001). Today, research into sports participation motivation is still prominent and has become a field of interest for sports administrators, coaches and educators, who want to identify sport participants motives so that they can better meet the needs of sports participants and ultimately decrease the rate of people discontinuing sport (sport dropouts).

Descriptive studies of participation motivation with youth samples

Descriptive research on participation motivations can be classified into two categories, sport general (Gill et al, 1983; Wankel & Kreisel, 1985; Longhurst & Spink, 1987; Zahariadis & Biddle, 2000) or as this research is, sport specific (Gould et al, 1985; Klint & Weiss, 1986; Brodtkin & Weiss, 1990; Hodge & Zaharopoulos, 1991; Paterson, 1999; Gaskin, 2000). Descriptive research in the past has been conducted mainly in North American and Canadian youth samples, however both sport general and sport specific research has produced consistent findings. Constant sets of motives were found which suggested that sport participants engage in sports predominantly to fulfill intrinsic motives (i.e. learn new skills, be physically active, and have fun). Extrinsic factors in these studies were cited as less important to participants (i.e. gain recognition and rewards).

One of the earliest and most extensive examinations of the motives children hold for sport participation was conducted by Gill et al (1983), who attempted to understand the reasoning behind participation motivation, and in doing so developed what is known as the Participation Motivation Questionnaire (PQM). This measure looked primarily at participation motivation in youth sport. The same instrument or a modification of this instrument has been widely used with other youth sport samples since it was developed (Wankel & Kreisel, 1985; Klint & Weiss, 1986; Longhurst & Spink, 1987; Passer, 1988; Brodtkin & Weiss, 1990; Hodge & Zaharopoulos, 1991; Buonamano et al., 1995; Gaskin, 2000; Teevale, 2001).

The original study undertaken by Gill et al (1983) involved 1,138 youth participants from 11 sport or physical activities who completed the PQM. Results obtained from the study indicated that there were several underlying motives for youth participation in sports. These dimensions of participation motivation included, success/status, team atmosphere, friendship, fitness, energy release, skill development and fun. As Gill et al's (1983) study recognises, young people participate in sports for many different reasons, which fall into common dimensions. These dimensions consist of skill

development, competence demonstration, and particularly important motives are excitement, challenge and fun (Gill, 2000). A further factor was that youths involved in sports indicated that several, rather than one overriding motive, persisted simultaneously.

As previously reported, there are numerous reasons why individuals participate in sport and these reasons can be categorised into self-factors (competence factors), physical factors, team factors or enjoyment factors. Weiss and Petlichkoff (1989) agree with other authors and suggest that reasons for participation can be grouped into categories of competence, affiliation, fitness and fun. Motivations for participating, however, can and do adjust due to factors such as gender, age, skill level, sport, parents, educational levels, geographical area and competitive experiences (Buonamano et al., 1995).

Motives for participation also vary from sport to sport, however Gill et al., (1983), and Gould et al., (1985) note similar findings between sports illustrated within their studies. The multi-item questionnaires used within the studies above, identified a consistent set of motivation factors, some of which are mentioned below. General themes have been:

- Competence (learn and improve skills, achieve goals)
- Fitness (get in shape or get stronger)
- Affiliation (be with friends or make new ones)
- Team aspects (part of a group, cohesion)
- Competition (win, success)
- Fun (excitement, challenge, actions)
- Health (psychological enhancement, mental well-being)

Koivula (1999) comments that sport participation on a regular basis has been shown to have a positive effect on physical health, body image, self-concept and is said to enhance self-esteem, generally making people feel better about themselves. Despite the benefits of sport participation being shown in research, there is still a high level of non-participation. Lindner and

Johns (1991), Gould & Horn (1984, cited in Smoll et al, 1988), and Koivula (1999) have estimated that over one third of all participants between ten and seventeen years of age withdraw from sport every year. Discontinuation motives will be discussed further, later in this chapter.

Descriptive studies of Participation Motivation in New Zealand

In the last decade, there have been an increasing number of studies conducted within New Zealand, focusing on specific sports, most recently rugby, netball and cricket. The current research being carried out is also sport specific to hockey. It is the only study carried out on hockey in New Zealand, which specifically looks at participation motives and discontinuation motives over a 10-month period.

In the early nineties, Hodge and Zaharopoulos (1991) carried out studies, on netball and rugby in New Zealand. Similar to overseas studies, motives highlighted were skill improvement, skill learning, and increasing fitness levels, to have fun and achieve goals set previously. Netball and rugby were researched, as at the time these two sports were predominantly a female and male sport, respectively. Overall, multiple sport motives prevailed as reasons provided for playing sport. Of the limited number of motives available for selection, both groups selected 'to improve skills and learn new skills' and 'to have fun' as some of the highest rated motives for playing these two sports.

In some studies, however, motives identified are specific to a particular sport, and therefore these findings could not be generalised as applying to all sports. For example, Hodge & Zaharopoulos (1991) indicated that in their research towards rugby union motivation, a motive stated for key enjoyment of the game was 'violence'. This motive is not a common finding associated with other studies in the literature and may be determined as a specific motivation for the sport of rugby, and possibly only one or two other sports. Other rugby studies in New Zealand, by Galvan (2000) and Hirst (2001) have supported Hodge and Zaharopoulos's research. These results do

suggest that individual subjectivity toward participation motives may vary in different sports.

Since this research, studies have been carried out by Gaskin (2000) on cricket participation in New Zealand looking specifically at motives for playing at a national level and Teevale (2001) on Pacific Island Women's participation in netball. Gaskin's (2000) research on cricket has provided some enlightening results as to reasons people have provided for participating in cricket. Gaskin's participants were year 8, 9, 13 and recent school leavers, who were from three demographic areas in New Zealand Auckland, Central Districts or Canterbury. The most important reason cited by both males and females of all age groups and location in Gaskin's study was 'to have fun'. Gaskin found that the male participants tended to rate skill and competition motives higher than their female counterparts, who instead rated team motives as being most important. Year groups rated motives differently; with the younger age groups rating team and skill motives more highly than the older age participants, who instead rated achievement motives as more prevalent.

Teevale's (2001) netball research was aimed at investigating the reasons, which Pacific Island women gave for their current netball participation. For netball participation, of the 157 participants in the study, similar to Gaskin's research 'to have fun' was rated the most important reason for participating in netball. Following this motive, reasons cited as important for participation included team motives, i.e. 'I like the team spirit' and 'I like the teamwork'. Other motives rated highly were related to health and fitness as well as skill development.

DISCONTINUATION MOTIVATION LITERATURE

Sport involvement depends greatly on the time one has available to play sport. Children are exposed to a wide variety of sporting opportunities, both scholastic and extracurricular, all of which contribute to a person's overall development. However, it must be remembered that as individuals develop, they may no longer be able to devote the same quality and quantity of time that is necessary to stay involved actively in each sport, therefore choices are made and actions taken.

To determine the motives for individuals' discontinuation, it is essential to highlight and discuss individual participation motives. The literature (Orlick, 1974; Boothby et al., 1981; Pooley, 1981; Gould et al., 1982; Brustad, 1993) indicates that individuals discontinue their participation in sport for multiple reasons. The following discussion illustrates the motives for individuals discontinuing participation in sport.

Descriptive studies on discontinuation motivation with youth samples

Research carried out by Gould and Weinberg (1999) points to Sapp and Haubenstricker (1978) as being some of the earliest authors to examine participation and discontinuation motives with youth sport participants. Gaskin (2000) suggests that the factors given for participating in sport were not the same as those given for discontinuing participation in sport. Sapp and Haubenstricker's (1978) participation results identified similar motives to the influential participation studies undertaken by Gill et al., (1983) and Gould et al., (1985). Only two reasons have been associated with players discontinuing their participation in sport, which were 'involvement in other sports' and 'working' (Sapp and Haubenstricker, 1978).

Although Sapp and Haubenstricker's (1978) research found only two constructs related to individuals discontinuing their sport participation, research conducted since then has further identified reasons which people have associated with ceasing participation in sport (Orlick, 1974; Boothby et

al., 1981; Pooley, 1981; Gould et al., 1985; Brustad, 1993; Gaskin, 2000). These include 'interests in other activities', 'negative peer pressure', 'little skill improvement', 'parental pressure to participate' (Brustad, 1993), 'age related decline in participation' (Petlichkoff, 1992), 'injury' (Gould et al, 1982), 'lack of fun and interest', 'lack of facilities', 'unfitness and physical disability', 'leaving a youth organisation' (Boothby et al, 1981), 'poor athlete/coach communication' (Pooley, 1981) and 'lack of motivation and ability' (Ryckman & Hamel, 1993, Burton & Martens, 1986).

Research by Orlick (1974) sparked concern when his interviews of participants in Canada revealed most did not plan to continue due to negative experiences such as lack of playing time, competitive emphasis and dislike for the coach. Other studies did not find the high rates of negative experiences as found by Orlick, however more often the potential dropouts cited "other reasons" (Gill, 2000).

Further studies have suggested that these so-called "dropouts" may not be dropouts at all. A study conducted by Klint and Weiss (1986) suggested that 95% of former competitive gymnasts were still participating in gymnastics at a less competitive level, or had simply started competing in another sport, therefore cannot be categorised as being a sport dropout. Gould et al., (1982) found that 58% of youths who had once participated in competitive swimming were active in other sports and many planned to re-enter swimming in the near future.

Klint and Weiss (1986) emphasised that dropping out of sport does not have to be a negative thing; rather it could simply be a natural end of sporting involvement. Discontinuing in one sport, does in no way diminish avenues for beginning participation in another sport, but instead helps enhance self confidence, develop independence, self-discipline and an ability to deal with successes and failures, and goal setting skills.

Descriptive studies of discontinuation motivation in New Zealand

Information gathered for the current research used a self-developed discontinuation motivation questionnaire, based upon the Sport Non-Participation scale (SNQ; McNally & Orlick, 1977, cited in Ostrow, 1996) and Gaskin's (2000) discontinuation motivation questionnaire. Gaskin's (2000) discontinuation motivation questionnaire was designed by Gaskin to identify reasons, which participations cited as influencing their discontinuation in playing cricket. For the current research, discontinuation motives will be focused on hockey and will seek to identify reasons why young people cease playing hockey in the Palmerston North/Manawatu area.

Research on motives for discontinuing participation is limited in New Zealand and until the early 1990's most of the research was completed in North America and Canada (Horn, 1992; Gill, 2000). Discontinuation motives identified in Hodge and Zaharopoulos's (1991) research indicated that participants dropped out of both netball and rugby union football due to 'clash of jobs and tertiary study', 'having other things to do', 'wanting to try out another sport', 'lack of time to do other activities and interests', 'it wasn't fun anymore' and 'it took up too much time'.

Gaskin's (2000) study involved 858 participants, from four school year-levels, year 8, 9, 13 and recent school leavers. Year 8 and 9 students represented the transition between intermediate school and secondary school, while year 13 students were in their final year of secondary school. Year 8, 9 and 13 students were asked for their participation motives, while year 9 and recent school leavers were the focus of discontinuation motives.

The main reasons cited in the research for ceasing cricket participation were that participants wanted to do other activities. This was especially noticeable for year 9 students i.e. 'I wanted to play another sport' and 'I wanted to do something else'. Recent school leavers also cited 'I thought I

was playing poorly', 'It was boring' and 'The games took too long' as further reasons for discontinuing cricket.

Hirst (2001) carried out a study similar to Gaskin (2000), focusing on rugby union football. Three hundred and twenty three people participated in the research; 193 year 13 students and the remaining 130 were recent school leavers. Of the year 13 students, 139 were still playing rugby, and 54 had discontinued playing since the last season. Of the recent school leavers, 111 were still participating and 19 had since discontinued. The main reasons for ceasing to play as identified in Hirst's (2001) study were 'I wanted to do something else', 'I was injured and could not play', and 'I wanted to play another sport'. For year 13 students, 'I had to work' and 'I had to study' were rated in the top five, however, these factors were not so high for recent school leavers who indicated that 'I didn't have time to play' was an important motive for ceasing participation.

As can be seen above, little research has been conducted in New Zealand regarding either participation motives or discontinuation motives, thus the importance of such research is once again highlighted. This research will enable programs and promotions to be put in place to encourage the participation of youth in the transitional phase between secondary school and either the workforce or higher tertiary education. It will also further test the validity of the SNQ and Gaskin's discontinuation motivation questionnaire.

This chapter provides an overview of the research process undertaken within this study. The chapter begins with a discussion of the research paradigms and qualitative research versus quantitative research, which influenced the research approach and design applied to this particular study. It will then provide a description of the specific research methods utilised and the process of data analysis. This chapter also considers the validity and reliability of the study as well as identifying the limitations associated with this research.

RESEARCH PARADIGMS

Paradigms have been defined as the worldviews or belief systems that guide researchers (Tashakkori & Teddlie, 1998). During the past three decades, several debates have occurred in the social and behavioural sciences regarding the superiority of one or the other, of the two major social science paradigms or models (Guba & Lincoln, 1994). The two models are known as the positivist/empirical approach or the constructivist/phenomenological orientation (Tashakkori & Teddlie, 1998). The positivist paradigm focuses on quantitative methods, while the constructivist paradigm focuses on qualitative methods (Tashakkori and Teddlie, 1998). The debate between these two paradigms has therefore often been termed the qualitative - quantitative debate.

Qualitative versus quantitative research inquiry

Traditionally a gap has been identified between qualitative and quantitative research, as each belongs to distinctively different paradigms. Tashakkori and Teddlie (1998) state that numerous attempts within social and behavioural science have been made to make peace between these two paradigms. Qualitative analysis is said to be the non-numerical examination and interpretation of observations, for the purpose of discovering underlying meanings and patterns of relationships (Babbie, 2001). Quantitative

analysis alternatively, is the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomenon that those observations reflect (Babbie, 2001). Taylor and Trumbull (2000) indicate that both qualitative and quantitative research has similarities and differences, however both are more similar in that the problems are defined in both approaches (see Figure 12). Taylor (2000, cited in Taylor and Trumbull, 2000) comments that quantitative and qualitative research share common ground in that both are concerned with reliability and study designs.

Figure 12 below, outlines similarities and differences between qualitative and quantitative research, although some of the items, which were provided in the original source, have been omitted due to the irrelevance of these items to the current research. Taylor and Trumbull (2000) indicated that quantitative research is designed to provide objective descriptions of phenomena and to display how phenomena can be controlled through specific behaviour. Contrastingly, “qualitative research is designed to develop an understanding of individuals in their natural environments that cannot be objectively verified” (Taylor & Trumbull, 2000, p. 171). Surrounding the designs of research, quantitative researchers prefer to study phenomena by dividing variables into parts and examining and analysing selected variables, while determining the interrelations among them. Qualitative researchers prefer to look at phenomena in a total or complete context, the whole, rather than looking at information in parts, as is done with quantitative research.

Quantitative research methods tend to make assumptions that findings obtained from research will be based upon already existing laws and principals, and that such assumptions will lead to accurate and established predictions. Contrastingly, qualitative research methods also draw certain assumptions, however the assumptions drawn are based upon individual cultures and unique attributes which set individuals apart (Taylor and Trumbull, 2000). With qualitative research, few value judgements can be

made until all data has been analysed and even in this instance, not all findings may be replicated and validity may be lost from study to study.

Figure 12: Similarities and Differences between Quantitative and Qualitative Research Methods.

(Taylor and Trumbull, 2000, p.173)

QUANTITATIVE RESEARCH	QUALITATIVE RESEARCH
Representative sample	Small sample, not representative
Data collected through instruments based upon precisely defined variables	Emphasises organising, co-ordinating and synthesising large quantities of data
Objective	Subjective
Tests theories	Develops theories
Develops conclusion based upon data	Develops values and judgements based upon data
Clarity based upon interpreting numerical data	Complex and rich experience, void of numerical data
Known reliability and validity	Unknown reliability and validity
Numerical data	Narrative data
Controlled	Conducted in natural environment
Various instruments are used	Mainly uses interviews and observations
Based upon facts	Based upon understanding
Short duration	Long duration
Separate	Together
Descriptions based on numerical data	Rich narrative descriptions
Subjects	Participants
Conducted using known instruments	Measurements frequently not known
Descriptions of human behaviour cannot always be expressed in numbers	Human behaviours can be accurately described in words

Brannen (1992) commented on the debate over combining quantitative and qualitative approaches, stating that most methodological commentaries seem to agree that, two distinct paradigms can be said to exist. Historically, there has been little support or comparison between quantitative and qualitative research. In the past qualitative research methods were viewed to be too subjective to yield objective results, and only quantitative methods were believed to provide objective research. Changes over the last century have seen qualitative research become more highly regarded which has gone some way in dispelling the previously mentioned myth. Today the qualitative method of data collection is considered to be equal to quantitative methods (Patton, 1990; Taylor & Trumbull, 2000).

Relevant methods and procedures guide all research. A continuum shows quantitative methods at one end and qualitative methods at the other. Quantitative research according to Taylor (2000) attempts to test theories through testing hypotheses to determine causes and effects. If a relationship is seen to exist between variables, causality may be explained. In the process of quantitative research, experimental variables are isolated and intervening variables are controlled. Creswell (1994) refers to quantitative research as being descriptive and experimental, and designed to test theories.

Qualitative research methods on the other hand are "designed to give real and stimulating meaning to the phenomena by involving the researcher directly or indirectly in the process" (Trumbull, 2000, cited in Taylor & Trumbull, 2000, p. 79). Numbers do not represent qualitative research; instead the focus is on meaning and the involvement of the researcher in the process. Cavana, Delahye and Sekaran (2001) believe that "the role of research is seen to be the deep understanding of human behaviour" (p. 34) and that the aim of qualitative research is to discover how humans construct meanings from within their background settings.

Quantitative studies are precise, explicit, predetermined and assume that the relevant variables can be identified in advance and validly measured.

Contrastingly, qualitative studies rely on short-term questions, people to interview, collection of data and things to observe, therefore less is assumed in advance. Although these methods appear quite diverse, findings show them to be similar in content. With combined method studies, questions arise regarding whether paradigms and methods should be linked. Creswell (1994) makes the assumption that linking paradigms with methods was an approach to encourage researchers to choose between quantitative and qualitative method types, rather than combine them.

Creswell (1994) comments on three models of combined designs. The first is the 'two-phase design' approach where a researcher proposes to conduct a qualitative phase of study and a separate quantitative phase of study. This approach has advantages, in that paradigms are clearly separate, therefore the researcher can clearly present the paradigm assumption behind each phase, however a disadvantage of this approach is that a connection between the two phases may not be made.

The second model, the 'mixed-methodology design' is one of the most complex of all designs. The mixed-methodology design allows the researcher to mix aspects of qualitative and quantitative paradigms at all or many methodological stages in the design. Creswell (1994) stated that using this approach adds complexity to the design and allows advantages of both qualitative and quantitative paradigms to be obtained.

The final model, the 'dominant-less dominant design' was used in the current study and allows the researcher to present the study within a single dominant paradigm, with a small component of the total study being drawn from an alternative paradigm. Creswell (1994) stated that advantages in using this approach are that consistent pictures of the paradigm are presented and still gather limited information to probe in one aspect of the study in great detail. Disadvantages are that "qualitative pursuits would see this approach as misusing the qualitative paradigm because the central assumptions of the study would not link or match the qualitative data collection procedure. Quantitative pursuits would also be concerned about

the match" (Creswell, 1994, p.177). This approach was selected for the current research because it allowed a mixture of qualitative and quantitative research to take place, within any area of the entire research process.

Strengths when using Qualitative and Quantitative Research

In the above section, definitions were provided for both qualitative and quantitative research as well as the various models, which can be applied to research using a combination of qualitative and quantitative research methods. It was furthermore highlighted that in the current research the combined design approach used was 'dominant – less dominant' design. The discussion will now provide insight into the different types of qualitative and quantitative research and the strengths associated with each method.

Ticehurst & Veal (1998) indicate that qualitative research tends to concentrate on collecting a great deal of 'rich' information from relatively few people. When one talks about 'rich' information, what is meant is that the information is informative. As stated by Cavana et al, (2001) social science provides a number of qualitative research methods ranging from ethnography to structured interviews. Within business settings, however, the most common strategies and tools include interviews, observations, and focus groups (Aaker, Kumar & Day, 2001). The current research used interviews to obtain data as well as questionnaires.

Well-designed interviews are based on six factors, the pattern of the interview, listening, questioning, paraphrasing, probing, and non-verbal behaviour (Cavana et al, 2001). Qualitative researchers instead use words to present their analysis of society, whereas quantitative researchers use numbers. Babbie (2001) states that the main distinction between quantitative and qualitative data in social research is essentially the distinction between numerical and non-numerical data. In qualitative research, the perspective of those being studied is what is important and significant, while in quantitative research the interviewer is 'in the driving seat' and structures the investigation to find answers to the research

questions while also enabling researchers to seek close involvement with participants, this enables them to better understand the world through the participant's view.

Furthermore, research is carried out in a natural setting whereby the researcher's qualitative approach is unstructured, enhancing clarification of issues arising, understanding meanings and concepts (Bryman, 2001). The researcher is not constrained with predetermined categories which allows the participants to elaborate on areas they deem to be important. Although qualitative research leads to detailed information on issues, this information cannot be said to be generalisable, as in general it comes from a single source. A further limitation to qualitative research is the cost involved both in financial terms and time.

In contrast to qualitative research, quantitative research is broadly based on ideals of positivism, assuming that 'reality' is out there waiting to be discovered and that the universal laws of nature operate according to rational, logical reasoning (Cavana et al, 2001). Quantitative research approaches, employ standardised measures, hence responses must fit into a limited number of predetermined categories developed by the researchers (Aaker et al, 2001). For example, participants are asked a question and have to select one of four possible answers. As respondents have limited options to select from, they must pick the closest answer from the choices available to them.

The three most common forms of quantitative research are case studies, surveys and experiments, all of which can employ different data collection techniques, including questionnaires, interviews, content analysis and observation. Quantitative methods are "designed to elicit responses predetermined, standardised questions from a large number of respondents" (Baines & Chansarkar, 2002, p. 23).

Strengths associated with quantitative research are the ability to generalise the number of a sample, to a population. Further strengths are that quantitative research:

- Involves a large number of respondents;
- Narrowly defined descriptive information;
- Structured questioning process using multiple fixed-response questions;
- Descriptive statistics, percentages, proportions, hypothesis testing (Baines and Chansarker, 2002, p. 24).

MIXED METHOD APPROACH

Tashakkori and Teddlie (1998) defined mixed method studies as being "studies that are products of the pragmatist paradigm and that combine the qualitative and quantitative apparatus within different phases of the research process" (p. 19). The mixing of methods provides many advantages for researchers, due to the researcher using multiple methods of data collection and analysis. The mixed method approach is thought to be more reliable as the sources of bias can be reduced. Using multiple methods enables the researcher to probe more thoroughly into underlying issues, using more than one source for data collection.

The current research used both quantitative and qualitative methods. The use of a questionnaire allowed the researcher to identify motives and intentions of students who meet the criteria to participate in the research. Interviews were also carried out with hockey clubs via committee members and with associations, to identify perspectives on issues surrounding player participation and discontinuation in hockey. The mixed method approach enabled the researcher to view changes in administration, which had occurred or were in the process or taking place, thus possibly altering current trends. The main data collection occurred through questionnaires, however, so limited conclusions can be drawn from the qualitative interviews carried out with clubs and associations.

A further advantage resulting from the mixing of methods is that it allows triangulation of data. Balnaves and Caputi (2001) comment that triangulation refers not only to the combining of methods and data, but theories as well. Balnaves and Caputi (2001) also refer to four types of triangulation, data triangulation, investigator triangulation, theory triangulation and methodological triangulation. Simple meanings for each are provided below.

- Data triangulation – where one researcher estimates the impact of time, space and different types of interaction.
- Investigator triangulation – where more than one person examines the same situation.
- Theory triangulation – where alternative or competing theories are used, and
- Methodological triangulation – where the same method is used on different occasions (p. 96).

Triangulation in research is an important area and provides many benefits to the research as can be seen below. Greene, Caracelli & Graham (1989, cited in Creswell, 1994) provided the following reasons for combining methods in a single study:

- Triangulation in the classic sense of seeking convergence of results;
- Complimentary, in that overlapping and different facets of a phenomenon may emerge;
- Developmentally, wherein the first method is used sequentially to help inform the second method;
- Initiation, wherein contradictions and fresh perspectives emerge;
- Expansion, wherein the mixed methods add scope and breadth to a study (1994, p. 175).

RESEARCH STRATEGY

The research strategy was to conduct a survey with hockey players to identify their reasons for participating or ceasing participation in hockey. A postal survey was administered to year 11, 12, and 13 students within

secondary schools in the Palmerston North/Manawatu region, who played hockey during the 2001 winter season for their school and who left school at the conclusion of the 2001 year to enter the workforce or higher tertiary education.

This research was a longitudinal study, carried out in three separate time periods. The first was late in the 2001 season (October/November) the second early in the 2002 season (March/April) and the third took place nearing the culmination of the 2002 season (August/September). Undertaking a longitudinal study allowed the researcher to observe the same phenomena over an extended period of time (Babbie, 2001). Longitudinal studies fall into three types, trend, panel and cohort studies. Trend studies examine changes within a population over time, while panel studies examine the same set of people over time (Babbie, 2001). The type of study applied within this research was the third type, a cohort study, whereby a researcher examines specific sub-populations (or cohorts) as they change over time. In the current research, the sub-populations were not always the same throughout each stage. Stage Two and Three were mainly the same people however in stage One due to a small sample size, more people were approached and information was obtained to enhance this sample size.

In executing this longitudinal research a case study approach was applied. A case study as defined by Yin (1994, p. 13) is an "an inquiry that investigates a phenomenon within its real-life context". This is said to occur when the boundaries between phenomenon and context are not clearly evident and when multiple sources of evidence are used. A case study explores a single entity or phenomenon (the case), bounded by time and activity and collects detailed information by using a variety of data collection procedures during a sustained time period (Yin, 1989). For this research the data collection techniques were survey investigations (questionnaires) for the quantitative aspect of the research and interviews for the qualitative part.

DATA COLLECTION METHODS

Survey investigations often attempt to describe what is happening or to learn the reasons why a particular activity is occurring commonly in society. Most survey research conducted to date in the area of participation motivation and discontinuation motivation is descriptive research, and has studied the motives children cite for participating and discontinuing participation in youth sports (Horn, 1992). The principal advantages of surveys are that they collect data about individual respondents at a certain time, a second advantage stemming from their versatility. Surveys can be employed in virtually any setting and are adaptable to research objectives that necessitate either a descriptive or causal design (Aaker et al, 2001). Furthermore surveys have the ability to obtain demographic information (age, gender, addresses of respondents), which can be valuable in later stages of research collection and analysis.

The process by which respondents are questioned appears to be relatively simple, however this is not always so. Aaker et al, (2001) refer to this process in reality being like 'Oppenheim's opinion' that "questioning people is more like trying to catch a particularly elusive fish, by hopefully casting different kinds of bait at different depths without knowing what is going on beneath the surface" (p. 218). Questionnaires are designed to capture a wide variety of information on diverse subjects, and therefore capture respondents overall assessment and the extent to which the object is rated as favourable or unfavourable to that participating individual. Information is gained through surveys on images people have surrounding certain issues with each individual providing their own interpretation of the issues. Within research, the main survey methods applied are personal interviews, telephone interviews, mail interviews and electronic interviews (Malhotra, 1999).

In order to gain information and feedback from individuals the method selected for data collection was self-administered questionnaires (see

Appendices F and G). Advantages of questionnaires over other methods of data collection are the low cost to implement, that minimal staff and facilities are required, access is provided for widely dispersed and difficult to reach samples, and respondents do not feel rushed when answering questions (Aaker et al, 2001).

Due to their being little to no involvement with the interviewer, costs are reduced. The absence of an interviewer aids in eliminating interviewer bias (Aaker et al, 2001), however a major flaw with this method is that nobody is present to explain queries or help clarify questions to respondents. Therefore the interpretation of questions may not have been precisely what the researcher wanted.

Within the current research, no open-ended questions were used, but the technique applied, closed-ended questioning provided a continuum of labelled components, which represented a range of options to which individuals responded. A likert scale was adopted whereby respondents simply choose the most correct number to represent their answer, with the scale in the current research ranking from 'extremely important' (5) to 'not at all important' (1). Advantages of closed-ended questions stated by Aaker et al, (2001) were the ease of answering and analysing responses. There appears to be less potential error in this technique due to the way questions are asked and responses recorded.

An area of controversy arising using this approach, however is whether a middle option should have been made available (i.e. a scale of 1 – 5, has 3 as the middle option). A possible alternative to having a middle option is to have a "don't know" choice. This means respondents are not forced to choose an option they are not completely happy with, or showing no real opinion and choosing a 3. The current research however uses a scale of 1 to 5 as this method has provided in past research (Gaskin, 2000; Hirst, 2001; Teevale, 2001). Another important area revolves around question wording.

Question wording can impact on how questions are interpreted by respondents. A minor change in the wording of questions could possibly have a large effect on how a respondent answers the questions. The questionnaires used in the current research are based on established instruments, which have been previously used in an international (Gould et al, 1982, Gill, et al., 1983; Klint & Weiss, 1986; Longhurst & Spink, 1987; Brodtkin & Weiss, 1990; Ryckman & Hamel, 1993; Buonamano et al., 1995; Hayashi, 1999;) and a New Zealand context (Hodge & Zaharopoulos, 1981; Galvan, 2000; Gaskin, 2000; Teevale, 2001; Hirst, 2001). The aims of this study and the specific use of the Participation Motivation Questionnaire (PMQ) survey and the Discontinuation Motivation Questionnaire (DMQ) were to review the motives, which youths cited for either participating in, or discontinuing participation in hockey. A further reason for the selection of the PMQ and DMQ were the ease of use, in terms of the understanding of language and administration.

RESEARCH PROCEDURES

Prior to selecting what age group to target the research at, letters were sent to local coaches, schools and associations to gain some feedback as to where the largest decrease in hockey participation is said to occur (see Appendix A). Responses obtained from these sources indicated that the area with the largest decrease in player numbers occurred as a result of student's leaving secondary school to either enter higher tertiary education or join the workforce (Hillary Commission, 1998).

Initial contact with schools was by letter, which was sent to all secondary schools in the Manawatu/Palmerston North region. These letters were sent directly to principals in July 2001 requesting permission to have their hockey teams and players participate in the research (Appendix B). Included with these letters were an information sheet (Appendix C), a consent form for the principal to complete (Appendix D) and the consent form to be completed by each individual student participating in the research (Appendix E). A follow up phone call was made with schools to ensure that the twelve schools

ensure that the twelve schools contacted to participate in the research had received the letter posted in September. Of the twelve schools contacted, six schools responded to the letter with only five agreeing to participate in the research. A further call was made to the remaining six schools that did not contact the researcher, however no further schools agreed to take part in the research.

PARTICIPANTS

The participants in the current research consisted of secondary school students who were surveyed in late 2001 from schools in the Manawatu/Palmerston North region. Further participants were current players and those who ceased participation for the 2002 season, who have entered the region to either undertake studies at a tertiary institution in the area or join the workforce and who agreed to participate.

The population studied were students who were either year 11, 12, or 13 in 2001 and who were playing hockey at school during the 2001-year. The population has been narrowed down to students within the Manawatu/Palmerston North region, which represents a large number of hockey players through all grades and age levels. Over the 2002 season, 2075 players ranging from mini hockey to senior hockey levels have been affiliated to Hockey Manawatu (C. Wilson, personal communication, 19 November, 2002). This represents an increase of 235 players from the 2001 season. Secondary school players represent 702 of the total number of players, while senior players represent only 455 of the total number for 2002 (C. Wilson, personal communication, 19 November, 2002). The remaining player numbers represent primary school players and mini hockey players.

The sampling procedure adopted for this research is known as non-probability sampling. Non-probability sampling is defined as "any sampling method where the probability of any population element's inclusion is unknown" (Aaker et al, 2001, p. 738). In non-probability sampling, the costs

and trouble of developing a sampling method are eliminated, these being prominent in probability sampling, defined by Aaker et al (2001) as "any sampling method where the probability of any population's elements inclusion is known and is greater than zero" (p. 739).

Under the banner of non-probability sampling, there are a number of options, which can be selected for a sampling method. For this research, the method selected was convenience sampling, whereby information was collected quickly and inexpensively. The overall procedure used in the current research has been explained in the previous sections of this report, however in short, this sampling method required year 11, 12 and 13 students to be contacted or approached. If they participated in hockey in 2001, they were then asked to take part in the research, if they did not play hockey in 2001, then they were simply thanked for their time.

Target Population

Oct/Nov 2001 - Year 11, 12 and 13 school students who were leaving at the end of the 2001 year to enter the workforce or higher tertiary education, and who currently participate in hockey at secondary school.

March/May 2002 – Students who were at secondary school in 2001, and who have now entered the workforce or started attending higher tertiary education. These students could have gone one of two ways since leaving school; either continued participating in hockey or has ceased since participation.

August/September 2002 - Students who indicated in Stages One or Two that they still played hockey and who in Stage Two were still participating having entered the workforce or higher tertiary education.

RESEARCH METHODS

Participation Motivation

The PMQ was developed by Gill, Gross and Huddleston in 1983 and was one of the earliest and most extensive studies which attempted to understand the reasoning behind participation motivation in youths. This instrument has been used in research in its original state and has also been used in a modified form since it was developed in other youth research both in New Zealand and around the world (Gill et al., 1983; Gould et al., 1985; Klint & Weiss, 1986, Longhurst & Spink, 1987; Brodtkin & Weiss, 1990; Hodge & Zaharopoulos, 1991; Ryckman & Hamel, 1993; Buonamano et al., 1995; Hayashi, 1999; Galvan, 2000; Gaskin, 2000; Teevale, 2001).

The PMQ (Gill, et al., 1983) was included in this research as it is the most widely utilised instrument for asking questions pertaining to why people participate in sport. With the original research conducted by Gill et al, (1983) respondents were asked to indicate the relevance of each item to themselves by use of a three point likert scale. Modifications to the original research however have seen the likert scale change from a three-point scale to a seven-point scale or a five-point scale. The current research used a five-point scale. A further modification was the word 'hockey' within the instructions, removing 'sport' which would have changed the focus of the study and put it into a much broader context.

For the current research, information was obtained via a 30-item questionnaire to which hockey participants were asked to respond on a five-point scale. A five-point scale was used within the questionnaire with options ranging from one, being 'not important at all' to five, being 'extremely important'. A further question asked respondents, which of the 30 items in the questionnaire, was considered most important overall for them in terms of their participation in hockey. Following on from this question, various demographic questions were obtained as well as details for contacting respondents again (see Appendix F for a copy of the PMQ).

Discontinuation Motivation

The second instrument applied to the current research was a self-developed discontinuation motivation questionnaire, based upon the Sport Non-Participation scale (SNQ; McNally & Orlick, 1977, cited in Ostrow, 1996) and Gaskin's (2000) discontinuation motivation questionnaire (DMQ). Gaskin (2000) for his research on cricket and reasons youth's cease playing cricket in New Zealand developed a discontinuation questionnaire, which was used extensively when developing the questionnaire for the current research on hockey.

The survey by Gaskin (2000) was developed in three stages; firstly obtaining a comprehensive list of the reasons athletes had cited for ceasing their cricket participation. This list was then synthesised into 36 items, which were considered to be the most relevant. Secondly, sport academics and administrators independently reviewed motives. Lastly, the instrument was pilot tested as an aid to control possible ambiguities arising from wording and comprehension (Gaskin, 2000).

The modified version of the discontinuation motivation questionnaire used in the current research consisted of 37 items to which hockey participants who played in the 2001 season and have since ceased participation responded on a five point scale (see Appendix G for a copy of the DMQ). As with the PMQ, this was followed with a question asking respondents to indicate the item, which was deemed to be most important in why people had ceased participation. The five-point scale was the same as that used in the participation motivation questionnaire.

Interviews

To support the results obtained in the quantitative research, qualitative research was also conducted, whereby the researcher interviewed the main hockey clubs (via a member of the committee) (see Appendix H for questions) and the hockey association (see Appendix I for questions) in the

Manawatu/Palmerston North area. The aims of the interviews were to collect information on how clubs set about gaining new players and retaining current players. The researcher was interested in obtaining information on what actions or strategies clubs have put in place to reduce the number of players leaving their hockey club and possibly the sport overall, as well as what strategies clubs have implemented to strengthen or maintain player participation for the following season(s).

Not all clubs represented in the Palmerston North/Manawatu area were approached to participate in the current research. There are twenty clubs in who play in the Manawatu competition, however only four clubs were approached for the current research. The four clubs, which were approached and took part in the research, were good representatives of clubs as they had teams in each grade of both the males and females divisions. These clubs were selected as they contained a variety of players from serious to social level, with the clubs having to cater for these players to ensure participation.

DATA ANALYSIS

QUANTITATIVE ANALYSIS

Throughout the data collection process, questionnaire answers were inputted into a computer database, Statistical Package for Social Sciences (SPSS), which was being used for computations in the research. For the purpose of the current research on participation and discontinuation motives, all tests were carried out using SPSS.

The importance of the information stems not only from the data and how it is computed, whether the data was entered correctly, and whether one is able to understand and use the important parts of the output, but there is also a requirement to present the results in a clear and technically appropriate manner (Ntoumanis, 2001) and it is believed that SPSS could meet these requirements. Ntoumanis (2001) refers to SPSS as being a “comprehensive

statistical programme with a wide variety of options and statistical analyses available for social scientists” (p. 1).

For the current research, analysis was carried out using both descriptive statistics and inferential statistics, which as stated by Babbie (1998) are the main methods of analysing quantitative data for describing a single variable and associations between variables. Factor analysis was employed to develop reliable measures, while inferential statistics were then employed to compare males and females on the scales developed. Inferential statistics, help demonstrate the probability that results deriving from a sample are likely to be found in the population from which the sample was taken, however only if a random sample was selected (Bryman & Cramer, 2001). Means over the three stages, for both participation and discontinuation were then compared.

Principal axis factoring

Factor analysis is concerned with describing the variation or variance, shared by the scores of people on three or more variables (Bryman & Cramer, 2001). This variance is called common variance, which is different to the other two sources of variance found in factor analysis, specific and error variance. Specific variance looks at the variation, which is either specific or unique to a particular variable, thus is not shared by any other variable. Error variance refers to the variation, which is due to fluctuations, which inevitably result from measuring something (Bryman & Cramer, 2001). Total variance therefore is all three sources mentioned above added together. Factor analysis cannot distinguish the difference between specific and error variance, therefore they are combined and known as ‘unique variance’.

The two most widely used forms of factor analysis are principal components analysis and factor analysis (or principal axis factoring). Principal axis factoring was the technique used to analyse the underlying structures of the PMQ and the DMQ. Principal axis factoring was selected over other

methods available to analyse data, such as the principal components matrix, as the principal components method of analysis mixes common, specific, and random error variances, thus a common factoring method such as principal axis was recommended (Ford, MacCullum & Tait, 1986; Rummel, 1970, cited in Hinkin, 1998).

Decisions and actions taken at each point of factor analysis have a substantial impact on the results of the analysis, thus also affecting the subsequent interpretations of the results (Ford et al., 1986). Ford et al, (1986) further asserts that in factor analysis the ultimate goal is usually the identification of underlying constructs that summarise a set of variables. Interpreting, the process by which results of the factor analysis are given meaning or labels, is clearly important, but this step is also highly subjective and dependant upon the choices made earlier in the factor analytic procedure.

The difference between principal components analysis and principal axis factoring is in how the unique variance of a variable is handled. In principal components analysis, all the variances of a score or variable are analysed, however in principal axis factoring, only the variance, which is common to or shared by the tests, is analysed, therefore an attempt is made to exclude common and unique variance (Bryman & Cramer, 2001). With regards to sample size, and the number of respondents required to make ensure results are clear and that the data is interpretable, similar sample sizes are required for both principal components analysis and principal axis factoring. Sample size requirements are discussed below.

Bryman and Cramer (2001) simply state “the larger the sample the greater the accuracy” (p. 100). Hair, Anderson, Tatham & Black (1998) recommend more specific numbers suggesting that researchers generally would not perform factors analysis on a sample of fewer that 50 observations, and preferably a sample size should be 100 or larger. Kline (1994) argues that with samples of less than 100 subjects, results obtained could be misleading. Coakes and Steed (1999) state that a sample of 100 subjects

is acceptable, however, sample sizes of 200+ are preferable, while Comrey (1978) supports this statement and advises that 200 subjects should be regarded as the absolute minimum.

Principal axis factoring contains not only common factors, but also 'unique factors', which trace the unique part of each variable, and include these in the model. Communality is also known as the variance of a test to be explained. As defined by Hair et al, (1998), "communalities are estimates of the shared, or common, variance among the variables" (p. 102). Gorsuch (1983) suggests that a popular procedure for extracting the common factors from a correlation matrix is by extracting the principal factors from a matrix with communality estimates in the diagonal. "Once the diagonal elements are replaced with the communality estimates, the extraction procedure is identical to that of principal components analysis" (Gorsuch 1983, p. 102). To assist in identifying the number of factors to retain, principal components analysis uses Kaiser-Meyer-Olkin criterion, however, principal axis factoring makes use of a scree test where the patterns of eigenvalues are examined for breaks and discontinuities. While the scree test has been questioned, Weiss (1976, cited in Ford et al, 1986) argues that it is quite effective when strong factors are present.

Scree tests were used as a means of establishing the number of factors to rotate. Cattell introduced scree tests in 1966, when he referred to a procedure of looking at the number of factors and the percentage of variance extracted that did not need to be computed. A scree test is used to identify the optimum number of factors that can be extracted before the amount of unique variance begins to dominate the common variance structure (Hair, Anderson, Tatham & Black, 1995, 1998; Ntoumanis, 2001). Furthermore a "scree test is derived by plotting the latent roots against the number of factors in the their order of extraction" (Hair et al, 1995, p. 378). Starting with the first factor the plot normally slopes steeply downward initially and when the curve begins to straighten out, this is shown to indicate the maximum number of factors to subtract. It is the factors before

the lines start to straighten out which provides the most information about the data set.

The first factors extracted from an analysis are those, which account for the maximum amount of variance. The second factor consists of the next largest amount of variance, which is not related to or explained by the first one and so on. In other words, factors one and two are unrelated or orthogonal to one another. Bryman and Cramer (2001) state there are as many factors as variables, although the degree of variance which is explained by the successive factors becomes smaller and smaller. In other words most items will fall on the first factor, although their correlations with it may not be that high.

To increase the interpretability of factors, they are rotated to maximise the loadings of some factor. A number of ways have been developed to rotate factors, however the two most common methods in research are orthogonal and oblique methods. Bryman and Cramer (2001), indicate that there is some controversy as to which of these two kinds of rotation is more appropriate. Orthogonal rotation was selected for the current research for the following reasons; that orthogonal rotational approaches are more widely used in research whereas oblique approaches are not so widespread. Furthermore orthogonal approaches are utilized more frequently because the analytical procedure for performing oblique rotations are not as well developed and are still subject to considerable controversy (Hair et al, 1998). Advantages and disadvantages to the research are noted below.

Advantages of orthogonal rotation are that the information provided by factors is not redundant, as a person's score for one factor is unrelated to a score obtained for another factor. A disadvantage however, is that factors may have been forced to be unrelated, whereas in real life, they are actually related phenomena. In other words, the result obtained from orthogonal rotation is not an accurate reflection of what occurs naturally. Within the current research, the method of orthogonal rotation applied was varimax

rotation. Everitt & Dunn (1992) indicated that varimax rotation is one of the most commonly used techniques when examining factors. Ntoumanis (2001) further remarks that varimax rotation is used when the factors are hypothesised to be unrelated.

Varimax rotation was selected ahead of other orthogonal procedures, such as equimax and quartimax. Although the equimax method attempts to accomplish simplification of both rows and columns, it has failed to gain widespread acceptance and is not used often (Hair et al, 1995). Quartimax rotation, on the other hand, has proven to be successful in extracting interpretable solutions, however, there is a tendency for items to load highly on the first item. This is due to the analysis being focused on the simplification of the rows in the factor matrix. Varimax rotation in contrast to both these methods focuses on simplifying columns in the factor matrix. Although varimax is a more complicated procedure than quartimax, it still tends to produce clearer results overall (Hair et al, 1998).

In general, the meaning of a factor is determined by the items, which load most highly on it. The items that load most strongly on the first factor are listed or grouped together and then ordered in terms of the size of their correlations. Similarly with the second factor, the items which correlate most strongly with the second factor are all grouped together and ordered in terms of size of their correlations (Bryman & Cramer, 2001). This same process continues depending on the number of factors selected for the matrix, which is decided from reviewing the scree plot.

Conventionally items, which have correlations, lower than 0.3 are omitted from being considered as they account for little variance (only about 9 percent), and are thus not important. Kline (1994) supports this, by stating that a factor loading of 0.3 is sufficient. Ford et al., (1986) alternatively comments that to reduce subjectivity, researchers have established rules to guide interpretation. A commonly used rule specifies that only items with loadings great than 0.4 on a factor should be considered 'significant' and used as a defining factor. In statistical terms, anything below 0.4 anything is

insignificant for analysis; however by removing all items lower than 0.35 allows inspection of those items sitting very close to 0.4. For this research, items above 0.4 were considered significant, however items loading above 0.35 were left in the analysis to see how strong the relationship was.

Analysis has shown that many items correlate in the analysis with more than one factor, for example, correlations may appear on both factors one and two. These factors are normally removed as it is not clear what they are measuring and often indicate that a question is answered differently by different people, thus respondents are not clear what the question is asking. Within the current research, similar results were obtained, with some items loading on more than one factor, hence violating simple structure. Simple structure means that each item loads mostly on one factor only. If an item loads on two factors, it is said to violate simple structure (R. Stablein, personal communication, November 17, 2002).

When analysing what items grouped under each factor, decisions were required surrounding what to name each set of items under each factor. A three-factor solution was selected for the current participation motivation research obtained during the first and second stages, as it provided three interpretable factors. Each group was provided with a title, which aided in describing what the items within the group were related to. One group was labelled self-orientation, another physical orientation and the last group was labelled team orientation. For the third stage of the participation data and the discontinuation data, a two-factor solution was revealed as it explained most of the variance. For the Stage Three participation data, labels applied were physical/team orientation and self-orientation, while for the Stage Two discontinuation research labels applied were combined orientation and time/variety orientation. Hair et al., (1995) further states that "this label is not derived or assigned by the factor analysis computer program; rather the label is intuitively developed by the factor analyst based on its appropriateness for representing the underlying dimensions of a particular factor" (p. 388).

Reliability analysis

Reliability analysis is an assessment of the degree of consistency between multiple measurements of a variable (Hair et al, 1998) and is said to measure the internal consistency of a group of items. Reliability analysis was performed in the current research as the researcher wanted to measure whether each scale was measuring a single idea and hence whether the items that make up the scale were internally consistent (Bryman & Cramer, 2001). The reliability method used was the Guttman's method, which has shown that the highest of lambdas 1 to 6 is the lower bound estimate (Guttman, 1954). It has been proven mathematically that true reliability is shown by a large alpha result on lambda 3, or what is referred to using research as Cronbach's alpha (Guttman, 1954).

Reliability can be calculated in a number of ways, but the most commonly accepted measure in studies is internal consistency reliability using Cronbach's alpha (Price and Mueller, 1986, cited in Hinkin, 1998). Cronbach's alpha is normally reported in business research and is the estimate of internal consistency reliability. Ideally, alphas should be between 0.7 and 0.8. Lower alphas indicate a poor internal consistency of a scale, as the items, which make up the scale are not strongly related to each other (Ntoumanis, 2001). Nunnally (1978, cited in Hinkin, 1998) states that a large coefficient alpha, above 0.7, provides an indication of there being strong item covariance. Cortina (1993) commented that 0.7 should serve as an absolute minimum for internal reliability measures. Hair et al (1998) support Cortina (1993) and indicate that 0.7 should be a lower limit for Cronbach's alpha. Ntoumanis (2001) suggests that alphas, which are high, indicate that items are almost identical to each other (and perhaps redundant).

Inferential statistics

Following on from the reliability analysis, which considered the internal consistency of respondent's answers to items, and whether respondents answered items in the same way, inferential statistics were carried out. There are two important types of inferences, estimation of parameter(s) and testing of statistical hypotheses. The current research looked at the latter type of inference, examining whether sample data supports or contradicts the investigators conjecture about the true value of the parameter (Johnson & Bhattacharyya, 2001). The approach taken for interpreting statistical inference is Type I error, also known as alpha (α). "The Type I error is the probability of rejecting the null hypothesis when actually true, or in simple terms, the chance of the test showing statistical significance when is actually is not present" (Hair et al., 1998, p. 331). T-tests were conducted to assess the statistical significance of the difference between two independent sample means. Hair et al., (1998) state that if the *t* value is sufficiently large, statistically it can be said that the difference was not due to sampling variability, but represents true difference.

Therefore the average of items is used as constructs. For the present study, was carried out at three separate stages. For the first and second stage of the participation data, three constructs were revealed, these were labelled 'self', 'team' and 'physical'. The Stage Three participation data, revealed two constructs, 'physical/team' and 'self'. The discontinuation data collected during the second stage of the data collection process has two construct, 'combined' and 'time/variety'. The inferential statistics within this study will identify whether males and females have the same motives for participating or discontinuing, based on the constructs being analysed.

Mean Comparisons

The analysis conducted for the inferential statistics was then used to create a graph, which showed the means from each of the scales obtained through the three stages of data collection, on both participation and discontinuation. This provided a visual diagram from which conclusions could be drawn. Moore (1995) states that comparing two populations or two treatments is one of the most common situations encountered in statistical practice.

QUALITATIVE ANALYSIS

The interview data obtained from clubs in the Palmerston North/Manawatu area were studied to see if there were any specific actions which some clubs were doing and which other clubs were not doing that may have resulted in gaining new players to the club or retaining current players. Answers obtained from clubs were studied and compared along side each other and then commented on. An interview was also carried out with the administrator at Hockey Manawatu after having carried out interviews with each individual club, which enabled findings to be highlighted and elaborated on, from the association's perspective.

The responses to the interviews were analysed using content analysis. Content analysis is an appropriate method when the phenomenon to be observed is communication, rather than behaviour or physical objects. Kumar, Aaker and Day (1999) state that content analysis "is an observational technique used to analyse written material into meaningful units, using carefully applied rules" (p. 215). Bouma (1996) commented that content analysis is very much like an observation study. In content analysis a checklist is developed to count how frequently certain ideas, words, phrases, images or scenes appear. It is like an observation study, however what is being observed is text. Kumar et al (1999), Malhotra (1999) and McDaniel and Gates (1999) all refer to content analysis as being the objective, systematic, and quantitative description of the manifest content of

a communication. Communications can be analysed at many different levels, such as image, words or roles depicted, and Kumar et al (1999) add that it may be words, characters, themes, space and time measures, or topics. Therefore “a researcher using content analysis attempts to determine what is being communicated to the target audience” (McDaniel & Gates, 1999, p. 221).

Having prepared and finalised the questions, which would be asked as part of the interview process, the researcher gained a greater familiarity with the data by reading through the interview material and making preliminary notes on topics under each question to ensure that the relevant data can be obtained during the interviews. Upon collection, data was organised to display the key points raised by the interviewees thus comparisons could be made with the information provided by other subjects in the interview process, what Bouma (1996) refers to as a data summarisation sheet.

The point of data analysis is to categorise or otherwise recombine the evidence collected in the study in order to address the study proposed propositions (Yin, 1994). This was then used to enhance the understanding of the results obtained from the questionnaire.

VALIDITY AND RELIABILITY

Concepts such as validity and reliability are relevant areas in social research, and aid in determining the quality of the research and subsequently the findings produced from the research undertaken. Questions about quality, trustworthiness or authenticity of findings need to be addressed early to ensure the audience they are being presented to accept that the findings are both valid and reliable. Validity is a concept designating an ideal state – to be pursued, but not to be attained. As stated by Brinberg and McGrath (1985), validity as the roots of the word imply has to do with truth, strength and value.

In case study research, four key tests are often applied to measure the strength of both quantitative and qualitative research. These four areas are construct validity, internal validity, external validity and reliability (Yin, 1989; Lee, 1999). Aaker et al (2001) defined construct validity as "the ability of a measurement instrument to measure a concept or 'construct'" (p. 734). Frankfort-Nachmias & Nachmias (1996) refer to researchers establishing construct validity "by relating a measuring instrument to a general theoretical framework in order to determine whether the instrument is tied to the concepts and theoretical assumptions that they are employing" (p. 168). Yin (1994) furthermore proposes three tactics, which when applied to research can increase construct validity. Firstly, the use of multiple sources of evidence, secondly, establishing a chain of evidence and finally, allowing key research informants to review the case study reports.

The current research indicates that construct validity issues have been addressed with the research using both quantitative and qualitative data, which increases the validity of the evidence presented with data being collected from participants by form of a postal questionnaire, as well as information being obtained from interviews with clubs. Furthermore, the PMQ and the DMQ have both been tested in previous research, which highlights that they are valid instruments.

Internal validity is the ability of an experiment to show relationships unambiguously and is concerned with the accuracy of the information and whether it actually matches reality in what is presented (Aaker et al, 2001). Internal validity is dependant on the study interpreting or describing the human experience accurately and therefore what is described can be immediately recognised by people who have had that same experience or by other people who have heard or read about the experience. Cavana et al (2001) propose that internal reliability addresses the question "to what extent does the research design permit us to say that independent variable *A* causes a change in dependant variable *B*" (p. 291) thus it refers to the confidence placed in the cause and effect relationship.

Internal validity is shown in the current research and is seen in the questionnaire whereby participants are presented with a number of realistic and evident items and asked to indicate how they felt about each. The items provided are feasible in that they do occur in hockey. They also represent the various options that people consider when participating in hockey or deciding to cease participation in hockey.

External validity analyses whether a study's findings are generalisable beyond the immediate case study (Yin, 1994). Tashakkori and Teddlie (1999) state that the more representative the sample of individuals, the greater the probability that the research findings have 'population external reliability'. Generalisation of a study does not automatically occur. A theory must be tested through replications of findings to see whether the same results occur again. This source of validity has been addressed within the current study, whereby information collected prior to the study being conducted showed a decrease in hockey participants after leaving secondary school. Information provided for the current research, from the Hillary Commission (1998), showed similar findings in terms of a decrease on a national scale over many sports once individuals leave secondary school (Hillary Commission, 1999).

The final component of importance when carrying out case study research is reliability. Reliability refers to the extent to which a measuring instrument contains variable errors, for example, errors that appear inconsistently from observation to observation during any one measurement attempt or that vary each time a given unit is measured (Frankfort-Nachmias & Nachmias, 1996). The reliability of a measure indicates the extent to which the measure is error free and hence offers consistent measurement across time and across the various instruments of the measure (Cavana et al, 2001). As stated by De Vaus (1995) measurements are reliable if one can obtain the same result on repeated occasions. The ultimate goal of reliability in research is to minimise errors and biases as stated by Yin (1994).

Reliability in this research has been increased as the participants from which information was obtained have previously played hockey or still are participating in hockey over the current season. This means motives of why these people are participating in hockey currently or reasons why people have ceased participation in hockey are still fresh in the minds of these individuals.

There are numerous sources of survey error when using qualitative and quantitative survey methods for research, which affect reliability and validity of the data presented. Possible problems have been identified in areas of:

- whether the population has been correctly defined;
- if the sample is representative of the whole population;
- respondents are selected to be interviewed and available and willing to co-operate;
- respondents understand the questions;
- respondents have knowledge, opinions, attitudes or facts required;
- respondents are willing and able to respond; and
- the interviewer understands and records the responses correctly (Aaker et al., 2001, p 219).

Considering the above list, it should be noted that possible sources of error stem from both the respondent and the interviewer. Conditions listed above are often not satisfied because of interviewer error, ambiguous interpretation of both questions and answers, as well as errors in formulating responses. A further source of error, which must be considered, is that some questions may not be answered. Respondents may be unable or unwilling to give a complete and accurate response to a question. They may also miss a question when completing the survey, all of which has an impact on the results drawn from the quantitative research. In terms of respondents being unwilling to respond, there are a few factors that could promote this:

- Concern about invasion of privacy;
- Time pressure and fatigue;
- Uninformed response error (Aaker et al., 2001, p. 221)

RESEARCH LIMITATIONS

This research must be viewed in light of its limitations. The present study identified a number of distinct limitations; these are explained in greater detail below.

Reliability of participant's responses

The PMQ has been used many times in previous research, in either its original state or in a manipulated version of the original document developed in 1983 by Gill, Gross and Huddleston. This does not however, mean that it is a good instrument to use. The PMQ can be easily modified, however, a possible limitation to it, is that the answers participants provide are simply their opinions as to their own motivation, however it is the behaviour of these individuals that really shows the truth in their answers. Participants may provide answers regarding their high levels of motivation to play hockey, however the actual behaviour of these individuals may not be consistent with the answers provided. Some participants simply say what they think, or interpret the researcher will want to hear and not actually what their physical behaviour depicts. Measuring motivation is not easy, as motivation is based on one's behaviour towards something or lack of behaviour towards something. The same can be said about the DMQ. While although not having been used in as many studies as the PMQ, participants may not provide answers based on physical behaviour.

Questionnaire interpretation

The use of the questionnaires in the present study revealed no problems in the format or administration of the questionnaire as respondents appeared to have no difficulty understanding or responding to items. The factor analysis results found two or three factor solutions at each of the data collection time points, while the discontinuation questionnaires revealed a

two-factor solution with the first factor containing the majority of the discontinuation items.

A step to find more distinct correlations could have been to ensure all items within a factor were logically related. This may have found that motives could have been grouped together in distinct factor patterns. Pilot testing could have been a useful method to enhance the interpretation of the questionnaire items and ensure respondents understanding. These results indicate that considerable psychometric work is needed before the items or factors can be accepted as reliable, valid and comprehensive measures of participation and discontinuation motivation in sport.

Generalisability of results

The researcher suggests that these results must be viewed cautiously, as the present study's sample size may not be generalisable and representative of other populations. In particular, the present study participation results were drawn from small sample sizes; Stage One had 58 participants, Stage Two, 63 and Stage Three, 56 participants. The response rate for the second stage was 41%, while the third stage had a 100% response rate. Hair et al (1998) suggest that principal axis factoring be performed with 50 participants, however, they recommended over 100 participants should be used in the analysis, hence the need to be cautious when interpreting results.

Similar caution should be taken with the discontinuation result, which obtained a sample size of 102 participants in the second stage and 7 participants in the third stage of data collection. Furthermore, the current research has been carried out only in the Manawatu area, therefore the same results cannot be said to occur nationwide. Furthermore, similar results may not be obtained consistently in the Manawatu region, from year to year. As stated by Bouma (1996) "conclusions are limited to the sample studied and to the population of which it is representative" (p. 210).

Factor analysis interpretation

The varimax rotation appeared to clarify the relationship among participation and discontinuation motivations, however, the interpretation of results is largely subjective. The results may be interpreted as showing either two or three classifications of factors for participation research and two classifications of factors for the discontinuation research. Nevertheless, other interpretations could be made. A number of problems may have affected the interpretation of results. Among the major one are these:

- The sample is small overall (especially the participation samples) and any attempt at replication might produce a different pattern of factor loadings.
- From the same data, another number of factors as (opposed to two or three) could result in different patterns.
- The questionnaire items may not truly reflect the hidden constructs that underlie any factors extracted.

This suggests that factor analysis can be a demanding tool to use. It is powerful, but the results must be interpreted with great care (Cooper & Schindler 1998).

Sport specific interpretation

Any generalisation of subjects ceasing sport participation must be viewed with caution because of the unique characteristics of each sport. With an extensive number of sports currently available for individuals, it is not surprising that there are numerous motives for individuals participating in, or discontinuing from sport. Although studies (Orlick, 1974; Boothby et al., 1981; Gould et al., 1982; Gill et al., 1983; Gould et al., 1985; Longhurst & Spink, 1987; Brodtkin & Weiss, 1990; Weiss & Chaumeton, 1992; Ryckman & Hamel, 1993; Buonamano et al., 1995; Gaskin 2000; Teevale, 2001) have attempted to explain the nature of participation/discontinuation motivation, there have been too few sport specific studies to determine the relationship

between the types of sports and the sport discontinuation rates of adolescence and young adults.

Such studies may produce results, which show a link between the type of sport, (i.e., non-contact, contact or collision sports) and the rates of discontinuation. Similarly, sports that take place during different seasons throughout the year (e.g. tennis during the summer and hockey during the winter) could be expected to have different rates of discontinuation. Consequently, those people discontinuing from those sports may have different motives for their discontinuation of sport.

SUMMARY

The methodology employed for this study was developed to suit the nature of the study, looking at motives revolving around why people participate in hockey or instead discontinue playing hockey. A dominant-less dominant approach utilising both quantitative and qualitative research tools were implemented in the research. A quantitative survey questionnaire (PMQ) was used to explore the topic from the broad perspective of why people participated in hockey or had discontinued (DMQ) hockey since leaving secondary school in 2001.

The qualitative research implemented was via interviews with club members and the local association. The interviews were used to explore the topic of participation and discontinuation in greater depth as well as collecting information on how clubs and associations go about increasing player retention and gaining new players. This enabled the hockey experience to be captured from varying viewpoints, through both collection methods. A major advantage of the mixed methods approach is that it also allowed data triangulation, adding validity to the study's findings.

The following chapter will present the findings.

This chapter of the research comprises two main sections. The first section presents the quantitative data, obtained from the current research. Firstly participation and discontinuation motivation demographics for items in the two measures will be looked at. Following from this, factor analysis (principal axis factoring analysis) of the participation and discontinuation variables of the two measures will be analysed.

The second section of this chapter presents the qualitative data, which was obtained, from local clubs and associations within the Manawatu/Palmerston North region.

QUANTITATIVE RESULTS

The first stage of the current research, collected data from participants who had played hockey in the 2001 season, 58 responses were obtained. The second stage of the research incorporated players who were still playing hockey or had discontinued from the previous season. Of the questionnaires sent out to all Stage One participants, the response rate was 41%; of which 6 had since discontinued playing hockey and 18 were still participating. It was during the second stage of data collection that more people were sought to increase the sample size. Forty five additional people who were playing hockey and 96 additional people who had ceased playing hockey were obtained. This brought the total people in Stage Two who had discontinued to 102 and who were still participating to 63. In the third stage of the data collection process only the participants from Stage Two were contacted, and a 100% response rate was obtained, 56 were participating and 7 had since discontinued.

Motives for hockey participation

The participants in this study (year 11, 12 or 13 students and recent school leavers) have cited numerous motives for participating in hockey. The rankings of participation motives are shown in Tables, 1, 2 and 3 below. Each table represents a different stage of the data collection. Table 1 contains findings from the first set of data collection which took place in October/November 2001; whilst Table 2 contains findings from the second stage of data collection in March-May 2002 and Table 3 contains the third stage of data collection which took place in August/September of 2002. Before continuing further discussion and highlighting findings, it needs to be noted that it was not always the exact same people throughout each of the three stages who completed the questionnaires. For Stages Two and Three, the respondents were the same, however due to the small sample size obtained during the first stage of data collection (n=58), further participants were sought throughout the second stage and it was these same participants who were involved during the third stage.

As can be seen below, Tables 1, 2, and 3, contain descriptive information regarding participation motives. The means and standard deviations are provided for each item at each stage of data collection. Table 1, provides an outline of the items which were provided in the questionnaires for the first stage of data collection, in October/November 2001.

Table 1: Means and standard deviations of the participation motives – Stage One (October and November 2001)

ITEMS	NUMBER	MEAN	STANDARD DEVIATION
To have fun	58	4.66	0.55
I like to get exercise	58	4.14	0.78
I want to be physically fit	58	4.10	0.81
I like the teamwork	58	4.11	0.73
I like the excitement	58	3.97	0.70
I want to stay in shape	58	3.95	0.85
I like the action	58	3.90	0.69
I like the team spirit	58	3.86	0.85
I like to compete	58	3.84	0.95
I like being on a team	58	3.78	0.80
I like to have something to do	57	3.75	1.01
I like the challenge	58	3.71	0.75
I like the teamwork	57	3.70	0.87
I like to make new friends	58	3.66	0.76
I want to improve my skills	58	3.62	0.95
I like to do something I am good at	58	3.55	0.82
I like to get out of the house	58	3.45	1.03
I want to be with friends	58	3.43	0.96
I like to win	58	3.43	1.03
I want to learn new skills	58	3.36	0.91
I want to go onto a higher level	57	3.28	1.07
I like to use the equipment and facilities	57	3.18	1.05
I like the rewards	58	3.14	1.05
I like to feel important	58	2.97	1.09
I want to release tension	58	2.97	1.12
I like to travel	58	2.93	1.27
I want to get rid of energy	58	2.86	0.98
I like the coaches and instructors	58	2.86	0.87
I want to gain status or recognition	58	2.79	1.02
I want to be popular	57	2.54	1.23
My parents or close friends want me to play	58	1.76	0.98

Note: *Not all respondents answered all items in the questionnaire therefore not all totals in the numbers column equal 58, which was the sample size for Stage One.*

The participants within the first stage of the data collection provided numerous reasons for participating in hockey. The results shown in Table 1 indicate that the top four motives for sport participation by both males and females were 'To have fun' (M = 4.66), 'I like to get exercise' (M = 4.14), 'I want to be physically fit' (M = 4.10) and the fourth most important item was 'I like the teamwork' (M = 4.11). Participant's extrinsic motivations were not highly rated reasons for their participation in hockey. The motives "I want to gain status or recognition" (M = 2.79), 'I want to be popular" (M = 2.54) and 'my parents and close friends wanted me to play" (M = 1.76) were ranked the bottom three items within the matrix as can be seen in Table 1 above.

The results seen in Table 1 were analysed further to look at motives for participation by gender. The sample size broken down into gender, for the first stage of the research consisted of 39 male subjects (67.2%) and a further 19 female subjects (32.8%). This breakdown by gender revealed that looking at individual participants the most important motive cited by both males and females for participating in hockey during the first stage of the research was 'to have fun'. For females, this was the only significant item selected, as a reason for participating in hockey during this first stage. Males, in contrast, did show more diversity in their motives for participating in hockey with further items highlighted being 'I want to be physically fit', 'I like to get exercise', 'I like the team spirit' and 'I want to be with my friends'.

During this first stage, participants were still attending secondary school, had completed their hockey season and were moving into the transitional stage, nearing the end of their secondary schooling and either moving into the workforce or onto higher tertiary education. Students were making decisions for the research based on their current feelings having just finished their season, and possibly looking into the distance toward their next season.

Stage Two saw similar overall responses from participants as encountered in Stage One. Stage Two data was collected at the very beginning of the

2002 season, in between the months of March and May. As mentioned in previous sections of this report, due to small sample size obtained in the first stage of research (n=58), more subjects were sourced to take part in the research. This resulted in a change of gender weighting from the previous stage, which saw more males than females taking part in the research. Stage Two had more females participating in the research than males, 45 (71.4%) female subjects and 18 (28.6%) male subjects. Information obtained during the second stage, included information from stage one participants who were contacted and asked to once again take part in the research, as well as the new participants to the research.

For Stage Two, the four most popular items overall, were the same as those in the first stage, however there were some slight changes to the means as shown. 'To have fun' (M = 4.59), 'I like to get exercise' (M = 4.11), 'I want to be physically fit' (M = 4.08) and 'I like the teamwork' (M = 4.06). Similar to the responses from Stage One, 'I want to gain status or recognition' (M = 2.38), 'My parents and close friends want me to play' (M = 1.87) and 'I want to be popular; (M = 1.85) were the items which gained the lowest means (see Table 2).

As with the Stage One data, information was then broken down to represent individual ratings for both males and females. Further motives indicated by males for continuing hockey participation were 'I like the challenge', 'I like the action' and 'I like the team spirit'. It was also found that in the second stage female responses indicated that they shared all the same motives as provided by their male counterparts, as well as further motives, which were 'I want to be physically fit', 'I want to stay in shape', 'I like being on a team' and 'I like the teamwork'.

Table 2: Means and standard deviations of the participation motives – Stage Two (March - May 2002)

ITEMS	NUMBER	MEAN	STANDARD DEVIATION
To have fun	63	4.59	0.64
I like to get exercise	63	4.11	0.74
I want to be physically fit	63	4.08	0.90
I like the teamwork	63	4.06	0.80
I want to stay in shape	63	3.94	0.84
I like the team spirit	63	3.89	0.94
I like the excitement	63	3.84	0.85
I like the action	63	3.79	1.00
I like being on a team	63	3.76	0.98
I like the challenge	63	3.70	1.01
I want to improve my skills	63	3.70	0.85
I like to compete	63	3.67	1.03
I want to meet new friends	63	3.65	0.88
I want to learn new skills	63	3.56	1.01
I like to have something to do	63	3.52	0.93
I like to do something I am good at	63	3.43	0.91
I want to go onto a higher level	62	3.35	1.10
I like the rewards	63	3.27	1.11
I like to get out of the house	63	3.11	1.06
I want to release tension	63	3.06	1.09
I like to get rid of energy	63	3.05	0.89
I like to win	63	2.98	1.02
I like the coaches or instructors	63	2.92	1.13
I like to use the equipment or facilities	63	2.90	1.10
I want to be with friends	63	2.89	1.00
I like to travel	63	2.76	1.29
I like to feel important	63	2.60	1.13
I want to gain status or recognition	63	2.38	1.01
My parents and close friends want me to play	62	1.87	1.08
I want to be popular	62	1.85	0.87

Note: *Not all respondents answered all items in the questionnaire therefore not all totals in the numbers column equal 63, which was the sample size for Stage Two.*

The third and final stage of data collected on hockey participation motives are outlined in Table 3 below. This data was collected in late August, early September of 2002, near the culmination of the 2002 season.

As was the case in all three of the stages for the current research, 'To have fun' (M=4.20) was rated as the most important motive for participating in hockey. For the Stage Three data, motives which were rated as the second most important behind 'To have fun' were 'I want to stay in shape' (M=3.41), 'I like to get exercise' (M=3.39), followed by 'I like the teamwork' (M=3.38) to make up the top four items. The item 'I want to stay in shape' is new to the top four placing, not having featured in the top four in either the first or second stage of the current research. In the first and second stages however, 'I want to stay in shape' had featured in the top six.

Again as in the first and second stages, the three items ranked as least important were 'I want to gain status or recognition' (M=2.07), 'I want to be popular' (M=1.98) and 'My parents or close friends want me to play' (M=1.75).

Looking at the data collected during the third stage, broken down by gender, it can be seen that overall 'To have fun' was the most important reason cited by both males and females for participating in hockey. For males, 'I like to get rid of energy' and 'I like the teamwork' were also found to be important motives. Females had very different responses, indicating physical items were important considerations for their reasons for playing hockey, 'I like to get exercise', 'I want to stay in shape', 'I want to be physically fit'.

Table 3: Means and standard deviation of the participation motives – Stage Three (August – September 2002)

ITEMS	NUMBER	MEAN	STANDARD DEVIATION
To have fun	56	4.20	0.80
I want to stay in shape	56	3.41	0.97
I like to get exercise	56	3.39	1.07
I like the team work	56	3.38	0.78
I want to improve my skills	56	3.29	0.87
I want to be physically fit	56	3.27	1.00
I want to learn new skills	56	3.13	0.83
I like the excitement	56	3.13	0.96
I like being on a team	56	3.07	0.95
I like to do something I'm good at	56	3.07	0.95
I like to have something to do	56	3.05	0.88
I like to make new friends	56	3.04	0.97
I like the team spirit	56	3.04	0.89
I like the action	56	2.95	1.05
I like the challenge	56	2.86	1.05
I want to get rid of energy	56	2.86	1.00
I want to be with my friends	56	2.80	1.05
I want to go onto a higher level	56	2.75	0.92
I like to get out of the house	56	2.73	1.10
I like to compete	56	2.70	1.01
I like to win	56	2.57	0.89
I like the rewards	56	2.52	0.97
I like the coaches and instructors	56	2.50	0.92
I want to release tension	56	2.43	0.85
I like to travel	56	2.21	0.91
I like to use the equipment and facilities	56	2.20	0.90
I like to feel important	56	2.14	0.96
I want to gain status or recognition	56	2.07	0.78
I want to be popular	56	1.98	0.84
My parents or close friends want me to play	56	1.75	0.86

Note: All respondents in this stage answered each item in the questionnaire, therefore all numbers in the totals column add up to 56, which was the sample size for the third stage.

Motives for hockey discontinuation

The participants in the current research have cited many motives for ceasing participation in hockey. The rankings of discontinuation motives are displayed in Table 4 below. The DMQ was not given to participants in the first stage of data collection as the researcher was not interested in people at secondary school who had ceased playing hockey. Instead the researcher was interested in identifying participants who were in year 11, 12 or 13, who played hockey in 2001 and were about to enter the transitional phase from leaving school to entering a tertiary education institution or the workforce. Therefore, participants indicating that they played hockey in 2001 and had since discontinued playing were identified during the second stage of the research collection process, which took place in March through to May, 2002. Of the total participants who indicated that they had ceased participating in hockey in 2002, the breakdown consisted of 44 male participants (43.1%) and a further 58 female participants (56.9%), comprising a total sample size of 102 for the Stage Two, discontinuation data.

Of the males and females in the questionnaire who had discontinued since 2001, a variety of items were cited as important. The two most important motives identified were 'I could not afford to play' and 'I had to study'. Further motives provided were 'I was injured and could not play', 'I wanted to do something else', 'I wanted to play another sport' and 'I didn't have time to play hockey'.

Female motives proved to be similar to male motives for ceasing to play hockey. The two main motives cited by females were 'I had to study' and 'I had to work'. While males also cited 'I had to study', however provided further motives such as 'I didn't know where to join a team', 'I was too competitive' and 'I could not afford the equipment to play' (see Table 4).

Table 4: Means and standard deviations of the discontinuation Motives – Stage Two (March - May 2002)

ITEMS	NUMBER	MEAN	STANDARD DEVIATION
I didn't have time to play	102	2.36	1.14
I had to study	102	2.34	1.26
I wanted something else	102	2.26	1.33
I wanted to play another sport	102	2.25	1.37
I could not afford to play	102	2.20	1.41
I had to work	102	2.15	1.25
I was injured and could not play	102	1.83	1.25
I could not afford the equipment to play	102	1.81	1.10
I was not fit enough	102	1.75	1.10
The practices took up too much time	102	1.75	1.02
My coach did not support me	102	1.75	1.15
I was not asked to play again	101	1.72	3.24
I wasn't successful at playing hockey	101	1.68	0.89
My friends stopped playing hockey	102	1.67	1.02
I was too competitive	102	1.61	0.96
I didn't like the coach	102	1.60	1.17
I did not want to let my coach or team mates down	102	1.60	1.11
I didn't know where to join a team	102	1.60	1.06
I was not improving	102	1.55	0.96
I wasn't good at playing hockey	102	1.53	9.10
I did not find a team to play in at the start of the season	101	1.52	0.97
I didn't want to get injured	101	1.50	0.97
My parents didn't support me playing hockey	102	1.49	1.10
It wasn't fun	102	1.48	1.00
I didn't like the pressure	102	1.46	0.83
I did not get along with other players in the team	102	1.44	0.93
The games took too long to play	102	1.43	0.71
It was boring	102	1.42	0.96
I did not like how long I had to travel to play/train	102	1.41	0.86
I never got involved in the game	100	1.37	0.95
I didn't feel important	102	1.37	0.83
The practices/playing facilities were poor	102	1.36	0.76
I was not accepted by other members of the team	102	1.36	0.85
I was worried about playing hockey	102	1.32	0.75
I didn't get passed the ball enough	100	1.31	0.72
I didn't get to play the position I wanted	102	1.29	0.64
My parents didn't want me to play	102	1.27	0.76

Note: Not all respondents in the questionnaires answered all the items; therefore not all totals in the numbers column equal 102, which was the sample size for stage Two of the Discontinuation Motivation Questionnaire.

Table 5: Means and standard deviations of the discontinuation Motives – Stage Three (August - September 2002)

ITEMS	NUMBER	MEAN	STANDARD DEVIATION
I wanted to play another sport	7	3.00	1.72
I didn't have time to play	7	2.86	1.07
I wanted something else	7	2.57	1.27
I could not afford to play	7	2.14	1.35
My coach did not support me	7	2.00	1.16
I did not want to let my coach or team mates down	7	1.86	1.07
I had to study	7	1.86	1.21
It was boring	7	1.71	1.25
It wasn't fun	7	1.71	1.49
My friends stopped playing hockey	7	1.71	1.25
I was not asked to play again	7	1.71	1.25
I didn't like the pressure	7	1.57	0.79
The practices took up too much time	7	1.57	0.54
The practices/playing facilities were poor	7	1.57	0.98
I was not fit enough	7	1.57	0.79
I was not improving	7	1.43	0.54
I did not like how long I had to travel to train/play	7	1.43	0.79
I did not get along with players in the team	7	1.43	0.79
I didn't feel important	7	1.43	1.13
I didn't like the coach	7	1.43	0.54
The games took too long	7	1.43	1.13
I wasn't successful at playing hockey	7	1.43	0.79
I was too competitive	7	1.43	0.79
I could not afford the equipment to play	7	1.29	0.76
I was injured and could not play	7	1.29	0.76
My parents didn't want me to play	7	1.29	0.49
I did not find a team to play in at the start of the season	7	1.29	0.49
I didn't know where to join a team	7	1.29	0.49
I was not accepted by others in the team	7	1.29	0.49
I worried about playing hockey	7	1.14	0.39
I didn't get the position I wanted	7	1.14	0.39
I wasn't good at playing hockey	7	1.14	0.39
My parents didn't support me playing hockey	7	1.14	0.39
I had to work	7	1.14	0.39
I didn't want to get injured	7	1.00	0.00
I didn't get passed the ball enough	7	1.00	0.00
I never got involved in the game	7	1.00	0.00

Note: All respondents to the questionnaires answered all the items; therefore the totals in the numbers column equal 7, which was the sample size for stage Three of the Discontinuation Motivation Questionnaire.

Table 5 above provides an outline of the Stage Three discontinuation data. This data represents people who have ceased participation since the second stage of data collection. As can be noted from the above table, the three most cited reasons for discontinuing participation in hockey was 'I wanted to play another sport', 'I didn't have time to play' and 'I wanted something else'. These findings were consistent with the findings from the second stage of the discontinuation data. As the sample size was so small (n=7), few other statements can be made regarding the data. With such a small sample size, neither factor analysis nor reliability analysis can be carried out.

Principal Axis Factoring

Each stage of data collection for both the participation and discontinuation motives produced a unique scree test for that particular data set. Below, the scree tests for each stage have been presented. The eigenvalues, which provide the percentage of variance, have also been provided for each stage of the research.

Figure 13: Scree plot for Stage 1 Participation (October - November 2001)

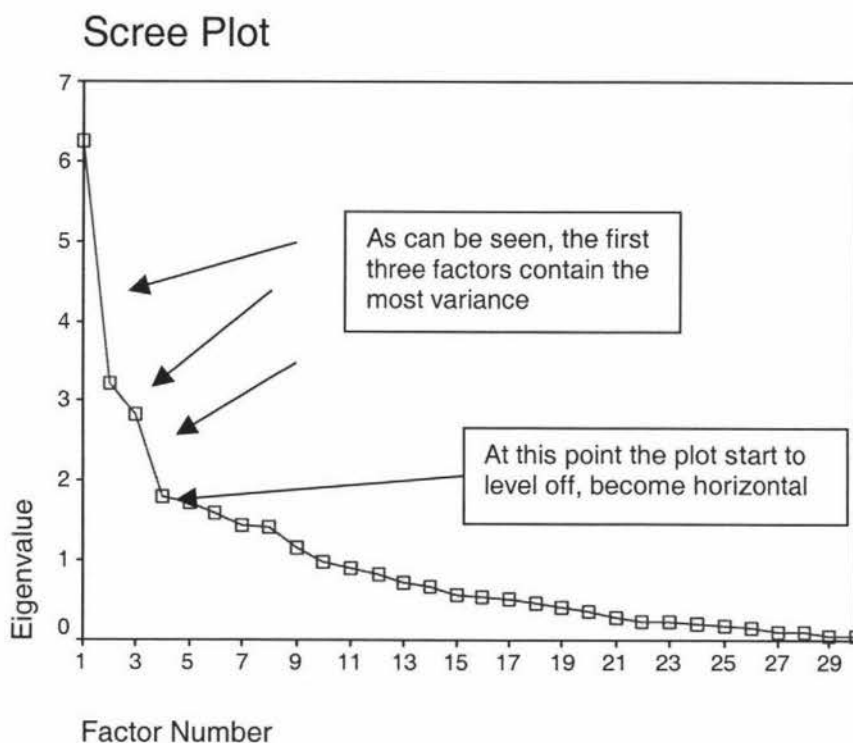
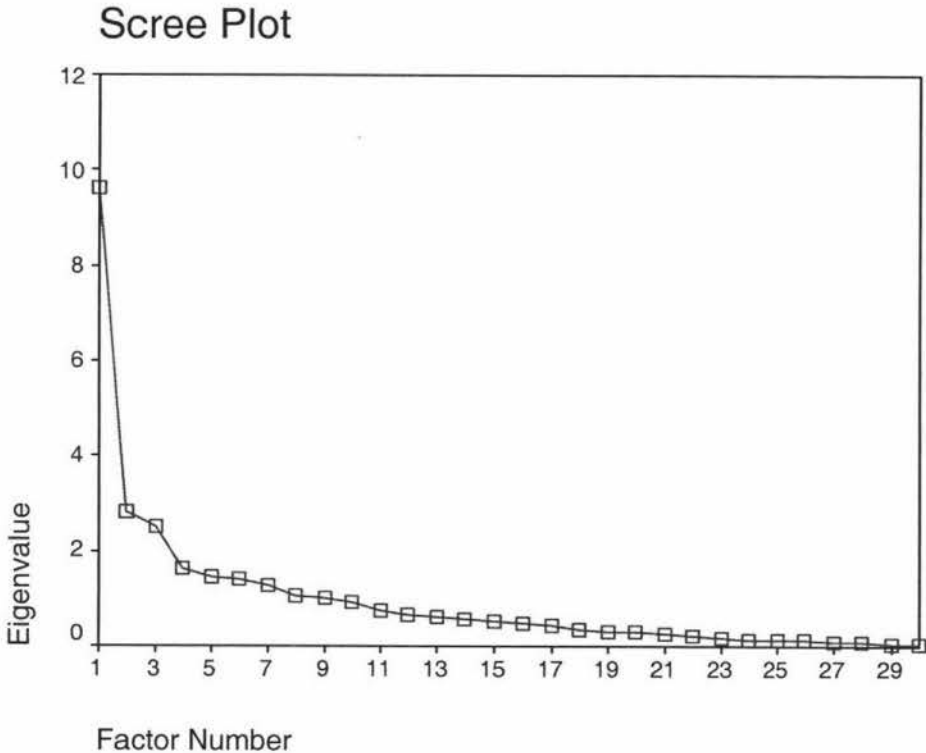


Figure 13 above, shows a scree plot of the research obtained during Stage One of the data collection. The top three arrows highlight that the first three factors on the plot contain the most variance, while the arrow at the very bottom, shows where the plot starts to level off, or become horizontal, this aids in deciding how many factors to retain for factor analysis. As can be seen, when the plot starts to become more horizontal and as the factors get closer together, little variance is explained, therefore most of the items

loaded onto the first three factors. In terms of eigenvalues, these three factors explained 41.07% of the variance in the data for Stage One.

The second stage of the participation data also resulted in a 3-factor matrix, with the first three factors explaining 49.83% of the overall variance (see Figure 14). Again, it can be noted that the plot starts to level off, with later items explaining little variance of the data.

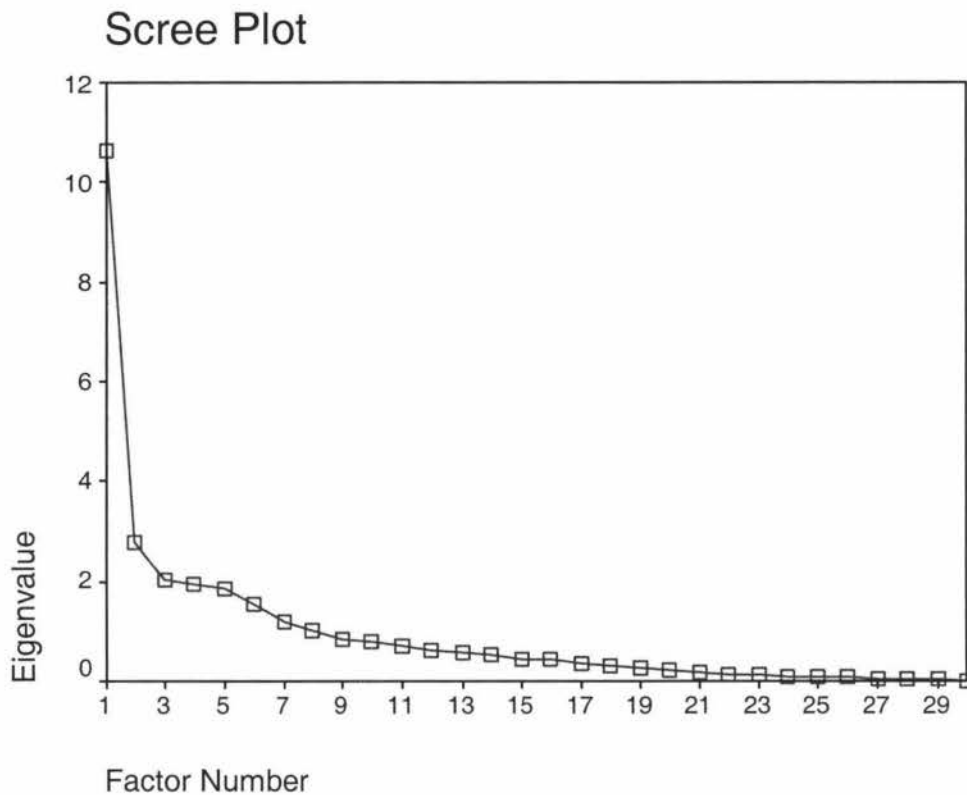
Figure 14: Scree plot for Stage 2 participation (March – May 2002)



Looking at the third stage of the participation data, it can be seen that unlike the first and second stages, which had three interpretable factors, the third stage of the data formed only two interpretable factors, thus a two-factor matrix was selected. The scree plot shown in Figure 15 below shows that the first two factors explained 44.66% of the variance in the matrix. It can be noted that very little variance is explained by each factors after the

second factor, and the graph begins levelling off, therefore the decision to retain only two factors is made.

Figure 15:Scree plot for Stage 3 Participation (August – September 2002)

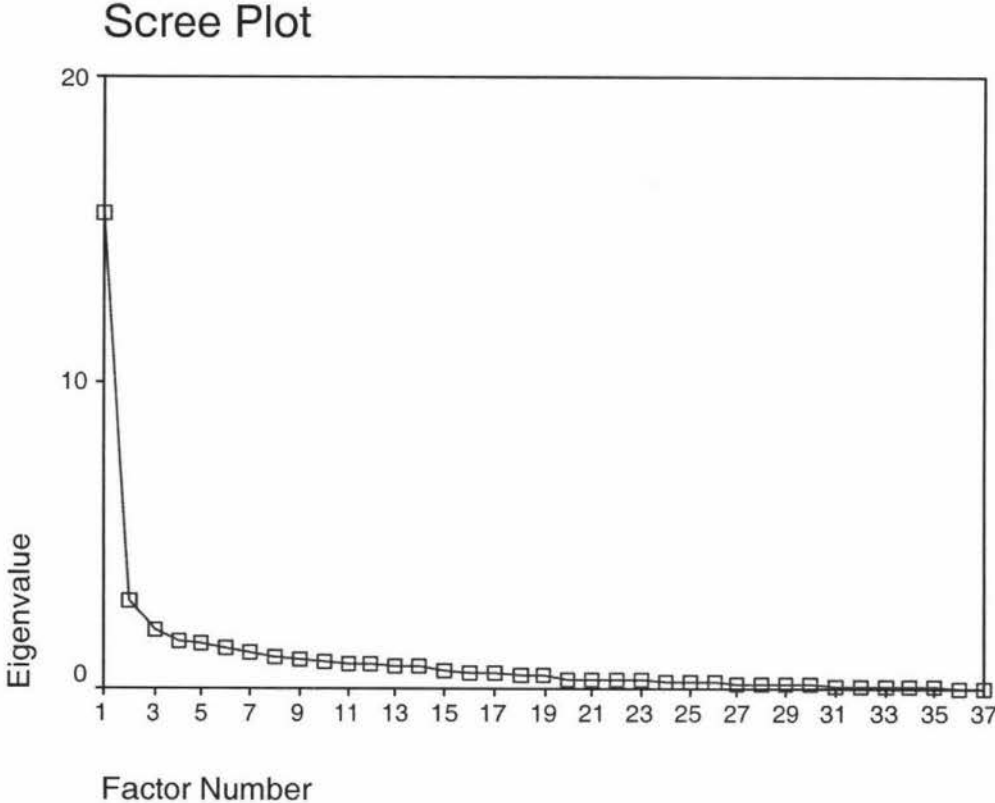


Therefore to conclude the participation data, for Stages One and Two, three factors were retained, and for Stage Three, two factors were retained for factor analysis. These decisions were made from the results obtained through the scree plots and how much variance can be explained from the eigenvalues. The discontinuation data obtained in the second stage of data collection will now be presented.

From the scree plot and eigenvalues, calculated for discontinuation motives (Figure 16), a two-factor solution was selected to represent the discontinuation data. The first two factors explain most of the variance

overall, therefore two factors will be retained for factor analysis. Most of the items clearly loaded on the first factor, however the second factor does load a number of factors. 49.55% of the variance in the matrix can be explained by a two-factor solution.

Figure 16: Scree plot for Stage 2 discontinuation motives (March - May 2002)



Below the researcher will provide an outline of the factor analyses for each stage of the participation and discontinuation results, which have been computed using varimax rotation, and with principal axis factoring as the method of extraction.

Principal axis factoring with varimax rotation revealed an interpretable three-factor solution of the participation motives for the first stage, as decided from the scree plots and eigenvalues. The three factors were labelled self-orientation, physical orientation and team orientation. The

labels provided assisted in describing what the factors within the group were related to.

The group labelled self orientation in Stage One, contained items relating to self, and was related to personal feelings and desires, such as, 'I want to be popular', 'I like to use the equipment or facilities', 'I like to feel important', 'I like to compete', 'I like the rewards', 'I want to gain status or recognition', 'I want to meet new friends' and 'I like to travel'. This group loaded as factor one on the matrix, which means it explained most of the variance on the matrix, as shown in the below table, at 20.86%. The second and third factor explained less variance in the matrix, hence loaded lower on the factor matrix.

The second group, labelled physical orientation explains 10.74% of the variance in the matrix. As the label implies, items within this group were all related to a physical item or need. This group contained items such as 'I like to get exercise', 'I want to stay in shape', 'I like to have something to do', 'I want to be physically fit', 'I like the action' and 'I like to do something I am good at'.

The third and final factor was labelled team orientation, and this factor explained 9.47% of the variance in the matrix. Items found within this factor were all related to the team and team environment, such items were 'I like the team spirit', 'I want to learn new skills', 'I want to improve my skills', 'I like the coaches or instructors', 'I like the teamwork', and 'I like being on a team'.

Table 6 below, outlines the principal axis factoring with varimax rotation of the participation motives for the first stage of data collection, which took place in October/November 2001. All the items below, as can be seen load on the matrix greater than 0.4 which was the point at which their inclusion was considered significant. Table 6 also shows that 'I like to get rid of energy' (in bold) loaded on more than one factor. This item will

consequently not be used in any further analysis for this research i.e. reliability analysis, as previously discussed in the methodology chapter.

Table 6: Principal axis factoring with varimax rotation of the Stage One participation motives (October – November 2001)

	Factor		
	1	2	3
SELF-ORIENTATION			
I want to be popular	0.705		
I like to use the equipment of facilities	0.697		
I like to feel important	0.674		
I like to compete	0.598		
I like the rewards	0.592		
I want to gain status or recognition	0.564		
I want to meet new friends	0.508		
I want to release tension	0.445		
I like to travel	0.429		
PHYSICAL ORIENTATION			
I like to get exercise		0.818	
I want to stay in shape		0.771	
I like to have something to do		0.662	
I want to be physically fit		0.572	
I like the action		0.503	
I like to get rid of energy		0.447	0.439
I like to do something I am good at		0.433	
I like the excitement		0.409	
TEAM ORIENTATION			
I like the team spirit			0.679
I want to learn new skills			0.620
I like the coaches or instructors			0.531
I want to improve my skills			0.529
I like the teamwork			0.462
I like being on a team			0.459
<i>Eigenvalues</i>	<i>6.257</i>	<i>3.223</i>	<i>2.841</i>
<i>Percent of variance explained</i>	<i>20.875</i>	<i>10.742</i>	<i>9.471</i>

For the second stage of the research, as shown in Table 7 below, there was a change in the order that labelled factors (as referred to above) were loaded onto the matrix. In the first stage of the research, the group of items labelled self-orientation were positioned as factor one with most variance being explained by this factor, following from this was physical orientation then team orientation. During the second stage of research as shown in Table 7, a change has seen team orientation load first on the matrix followed by physical orientation and lastly self-orientation. Therefore it can be said that team orientation explains most variance in the matrix.

As can be noted from Table 7 below, under the label team orientation, a small number of items have loaded onto the matrix, which previously did not reach the 0.4 criterion. Such items are 'To have fun' and 'I want to be with my friends'. Further significant changes which have occurred, have been items loading highly under a new label, in which during the first stage they had no loaded under, such as 'I want to meet new friends' which previously loaded strongly under self orientation. 'I like the challenge' has also loaded in more than one factor within the factor matrix (in bold). This item loads highly at 0.607 in factor one (team orientation) and at 0.502 in factor three (self orientation), both of which being greater than the threshold of a 0.4 criterion. This factor therefore will not be used in further analysis as it violates simple structure.

Under the label physical orientation, it can be noted that again some changes are prominent. Three items, which did not load highly or meet the 0.4 criterion for inclusion in the first stage of the participation research, have loaded highly under physical orientation. These are 'I want to release tension', 'I like to get out of the house' and 'I like to get rid of energy'. Furthermore 'I like the action', 'I like to compete' and 'I like the excitement' load onto more than one factor in the rotated factor matrix (in bold) therefore due to it being unclear what these items are measuring or how subjects have interpreted this item, and because they violate simple structure (as explained previously) they will be omitted from further analysis.

For the final factor in the second stage self-orientation, changes are once again visible. Three items, omitted in previous stages of research due to not meeting the 0.4 criterion for loading, have loaded highly in the second stage of the participation research. These items are 'I want to go onto a higher level', 'I like to win' and 'My parents and close friends want me to play'. The item 'I like to do something I am good at' has also loaded more highly in self-orientation in the second stage than as a physical factor, which was where it loaded during the first stage of the participation research. Within self-orientation, two items load on more than one factor. These items were 'I like to win' and 'I like the rewards', (in bold) and due to violating simple structure will not be using in further analysis in this research.

Table 7: Principal axis factoring with varimax rotation of the Stage Two participation motives (March – May 2002)

	Factor		
	1	2	3
TEAM ORIENTATION			
I like the team spirit	0.782		
I want to meet new friends	0.677		
I like being in a team	0.618		
I like the coaches or instructors		0.608	
I like the challenge	0.607		0.502
To have fun	0.592		
I like to use the equipment of facilities	0.589		
I want to improve my skills	0.570		
I want to learn new skills	0.546		
I like the teamwork	0.496		
PHYSICAL ORIENTATION			
I like the action	0.412	0.730	
I like to get exercise		0.712	
I like to compete		0.649	0.436
I like the excitement	0.396	0.630	
I want to release tension		0.610	
I like to get out of the house		0.557	
I want to be physically fit		0.490	
I like to get rid of energy		0.487	
I like to have something to do		0.485	
I want to stay in shape		0.438	
SELF ORIENTATION			
I want to gain status or recognition			0.701
I like to feel important			0.639
I want to go onto a higher-level			0.636
I like to win			0.607
I like to do something I am good at			0.536
I like the rewards		0.444	0.551
I like to travel			0.551
I want to be popular			0.536
My parent or close friends want me to play			0.456
<i>Eigenvalues</i>	<i>9.624</i>	<i>2.804</i>	<i>2.520</i>
<i>Percent of variance explained</i>	<i>32.080</i>	<i>9.347</i>	<i>8.401</i>

A major change in the Stage Three data compared to that of the Stage One and Two is that principal axis factoring with varimax rotation revealed an interpretable two-factor solution as opposed to a three factor solution as seen in the previous stages (see Table 8). Due to the change to a two-factor solution, a change to the labelling of the factors needed to occur from those used in the previous stages of this research. The new labels applied to the factors are self-orientation (no change in this name) and physical/team orientation as this factor, which is a combination of the items, which had previously loaded onto the physical orientation or team orientation.

Items omitted from the analysis in Table 8, having not reached the 0.4 criterion were, 'I want to be with my friends', 'I like to win', 'I want to stay in shape', 'I like to get rid of energy', and 'I want to be popular'. There were some items such as 'I want to learn new skills' and 'I want to go onto a higher level', which just missed the 0.4 criterion, however due to being so close to 0.4, at 0.398 and 0.396 they have been left in the matrix.

As can be noted from looking at the eigenvalues and percentage of variance explained above, physical/team factor, explains 35.39% of the total variance in the matrix. The items, which loaded onto this factor, are considered to be highly significant in statistical terms, with 0.4 – 0.6 said to be significant and values greater than 0.6 said to be highly significant. As can be seen from viewing table 8 below, over half the values in the table load on above 0.6 for this factor.

All the items, which loaded on the physical/team orientation, had in either Stage One or Two as shown in table 6 and 7, loaded onto either physical orientation or team orientation. The factor labelled self-orientation, explained 9.27% of the total variance in the matrix. Items, which fell under this factor included 'My parents and friends want me to play', 'I like to travel', 'I want to gain status or recognition', and 'I like to use the equipment or facilities'. Three other items which loaded onto self-orientation (see Table 8), 'I like to do something I am good at', 'I like to feel important' and 'I

want to release tension' (in bold) were be omitted from further analysis within this research as they violated simple structure.

Table 8: Principal axis factoring with varimax rotation of the Stage Three participation motives (August – September, 2002)

	Factor	
	1	2
PHYSICAL/TEAM ORIENTATION		
I like to have something to do	0.747	
I like the excitement	0.730	
I like to get out of the house	0.707	
I like the team spirit	0.706	
I like to compete	0.689	
I like the action	0.687	
To have fun	0.675	
I want to meet new friends	0.675	
I like being on a team	0.671	
I like the challenge	0.665	
I like to get exercise	0.662	
I like the teamwork	0.646	
I like the rewards	0.641	
I want to be physically fit	0.576	
I want to improve my skills	0.470	
I like the coaches or instructors	0.410	
I want to learn new skills	0.398	
I want to go onto a higher-level	0.396	
SELF-ORIENTATION		
My parents and close friends want me to play		0.700
I like to travel		0.612
I want to gain status or recognition		0.587
I like to use the equipment or facilities		0.556
I like to do something I am good at	0.448	0.521
I like to feel important	0.474	0.488
I want to release tension	0.438	0.478
<i>Eigenvalues</i>	<i>10.615</i>	<i>2.782</i>
<i>Percentage of variance explained</i>	<i>35.385</i>	<i>9.274</i>

Table 9 below provides an outline of principal axis factoring with varimax rotation for the discontinuation data collected alongside the participation data in March – May 2002. For the principal axis factoring with varimax rotation, a two-factor solution was decided from the scree tests, as stated earlier in this section. The two factors were labelled combined orientation and time/variety orientation.

Combined orientation was the label chosen for the first factor as it contained a range of items from diverse areas; hence no specific labelling would have done justice to the items within, thus the title, combined orientation. Combined orientation loaded first onto the data matrix as it explained the most variance, 41.83%. As noted earlier a diverse range of items fall under this factor, all of which can be seen in Table 9. There were two items within combined orientation, 'The practices/playing conditions were poor', and 'I did not like how long I had to travel to play', both of which loaded onto more than one factor (highlighted in the below table). Having reached the 0.4 criterion for both factors within the matrix, these items violated simple structure and as a consequence was omitted from any further analysis.

The second factor in the table was labelled time/variety orientation. As the first part of this label suggests, time, items within this factor revolve around time involved in hockey. Time involved training and playing hockey, as well as the time taken away from other activities, such as work or study as a result of playing hockey. The second part of the label, variety, is included as items in the matrix revolve around wanting to play another sport or wanting something else, thus more variety. Like what occurred in the first factor for discontinuation motives, items loaded onto more than one factor ('my friends stopped playing hockey') violating simple structure thus were as a result omitted from further analysis.

Table 9: Principal axis factoring with varimax rotation of the Stage Two discontinuation motives (March – May 2002)

	Factor	
	1	2
COMBINED ORIENTATION		
I was not accepted by the other players in the team	0.867	
I never got involved in the game	0.847	
I worried about playing hockey	0.847	
I want not improving	0.811	
I did not want to let my coach or teammates down	0.808	
I didn't get passed the ball enough	0.795	
I didn't like the coach	0.782	
I didn't get along with other players in the team	0.764	
It wasn't fun	0.760	
I didn't feel important	0.740	
My coach didn't support me	0.725	
I wasn't good at playing hockey	0.723	
My parents didn't support me playing hockey	0.699	
I didn't like the pressure	0.679	
My parents didn't want me to play	0.618	
I didn't get to play the position I wanted	0.587	
It was boring	0.583	
I didn't know where to join a team	0.579	
I didn't want to get injured	0.572	
The practices/playing conditions were poor	0.553	0.417
I was too competitive	0.510	
I did not find a team to play in at the start of the season	0.478	
I did not like how long I had to travel to play/train	0.475	0.401
I could not afford the equipment to play	0.463	
I wasn't successful at playing hockey	0.447	
I was not fit enough	0.432	
I was not asked to play again	0.426	
TIME/VARIETY ORIENTATION		
I wanted something else		0.737
I wanted to play another sport		0.684
I had to study		0.672
The practices took up too much time		0.624
I didn't have time to play		0.621
My friends stopped playing hockey	0.419	0.480
I had to work		0.443
<i>Eigenvalues</i>	<i>15.479</i>	<i>2.855</i>
<i>Percent of variance explained</i>	<i>41.834</i>	<i>7.715</i>

Reliability Analysis

For the first stage of the reliability analysis process, an in-depth view of reliability analysis will be provided. Table 10 below provides an outline of the reliability analysis carried out on Stage One data for the first factor, self-orientation. Table 10 is broken down into sections. On the left hand side are all the items, which made up the factor labelled self-orientation. Column 1 in the table shows the alpha values obtained when reliability analysis was carried out based on the information gained in the rotated factor matrix. The Cronbach's alpha values shown represent what the alpha value will be if the item is removed. This value at the bottom of column 1, reads as 0.8260. It can be seen however that the item 'I like to travel' has a value greater than our alpha value, at 0.8303. This means that removing the item 'I like to travel' will increase the alpha value from 0.8260 to 0.8303.

Column 2 shows the new alpha value having removed 'I like to travel' from the analysis. There are no other values in the matrix, which are greater than the alpha value, which is greater than 0.7, meaning that these factor results are reliable, and there is strong item covariance.

Table 10: Reliability analysis carried out on Stage One, self-orientation

Self Orientation:	1	2
I want to be popular	.7962	.7954
I like to use the equipment or facilities	.7995	.8024
I like to feel important	.7992	.7924
I like to compete	.8209	.8242
I like the rewards	.8041	.8073
I like the status and recognition	.8153	.8137
I want to meet new friends	.8181	.8198
I like to release tension	.8196	.8248
I like to travel	.8303	
Cronbach's Alpha value	.8292	.8303

A similar process was conducted through each stage of analysis, and with each factor. For stage One, physical orientation, the Cronbachs' alpha value was 0.8167. The item 'I like to get rid of energy' was omitted from the analysis because it violated simple structure loading onto more than one factor in the matrix, as found in the principal axis factoring (see Table 6). For the team orientation, the alpha value was 0.7354. Both these alpha values represent reliability in results, and a strong covariance of items.

Stage Two reliability analysis looked at each of the three factors from the rotated factor matrix, as was done previously with the Stage One data; team orientation, physical orientation and self-orientation. The alpha values for the three items were 0.8740, 0.7511 and 0.8231. Results obtained are all greater than the 0.7 criterion level, indicating that there is strong item covariance. For the team orientation value, the item 'I like the challenge' was removed as it loaded onto more than one factor in the principal axis factoring. Similarly for the physical orientation, the items, 'I like the action', 'I like to compete', and 'I like the excitement' and self-orientation, 'I like the rewards' loaded onto more than one factor, so were omitted from the reliability analysis.

Stage Three reliability analyses looked at two factors, physical/team orientation and self-orientation. Physical/team orientation provided an alpha value 0.9313. A number of items were removed from the analysis, to increase the alpha value, these were 'I want to go onto a higher level', 'I want to improve my skills', 'I want to learn new skills', and 'I like the coaches and instructors'. The second factor, self-orientation, provided an alpha value of 0.6687. Three items in for this analysis were not included in the reliability analysis as they loaded onto more than one factor, hence violating simple structure, as identified in the principal axis factoring. These items were 'I like to do something I am good at', 'I like to feel important' and 'I want to release tension'. As can be noted above, physical factors provide a large alpha value, over 0.7, which indicates high reliability. The self-orientation factor however had an alpha value below 0.7, indicating poor

internal consistency of a scale. It also shows that items within the scale are not strongly related to each other.

For the discontinuation data, obtained in the second stage of the data collection process, provided two factors, combined orientation and time/variety orientation. The Cronbach's alpha value calculated for the combined orientation factor, during reliability analysis was 0.9368. Two factors were not included in the reliability analysis as they violated simple structure during principal axis factoring. These were 'The practices/playing facilities were poor' and 'I did not like how long I had to travel to train/play'. No other factors were omitted to increase the alpha value as 0.9368, indicated very reliable results.

Time/variety orientation provided an alpha value of 0.8037. The item 'I had to work' was removed from the analysis to increase the alpha value. Three further items were not included in the analysis as they violated simple structure, these were, 'The games took too long to play', 'I was injured and could not play' and 'I could not afford to play'. The values obtained from the reliability analysis revealed that the data obtained from both factors is reliable and that items are strongly related to each other.

Inferential Statistics

Inferential statistics were employed to compare males and females on the scales developed in the reliability analysis. The approach taken when interpreting statistical inferences, was Type I error, also known as alpha (α). T-tests were used in the analysis to determine differences in the participation scales as a result of gender. All tests were two tailed. The null hypothesis (H_0) for the participation and discontinuation research was that males and females would show no difference on scales within each research stage. The hypothesis of interest (H_1) was that males and females would differ on each scale, in each research stage.

(H₀): Males = Females.

(H₁): Males ≠ females.

Inferential statistics were conducted on all three scales obtained from Stage One data had labels of 'self', 'physical' and 'team' orientation scales. Results show for the 'self' scale, that the null hypothesis is rejected. There is a difference between males (M= 3.30) and females (2.86). Males showed that at the first stage of the research, they were more orientated to self items than females as a reason for their participation in hockey, $t(54) = 2.28, p < 0.027$.

For the 'physical' scale, the null hypothesis could not be rejected. There was only a small difference between males (M= 3.90) and females (M= 3.92) ratings for physical orientated items. Males and females appeared to endorse physical motives equally during the first stage of the research in their reasons for participating in hockey, $t(55) = -0.164, p > 0.870$. The 'team' scale indicated that the null hypothesis is rejected. There were differences between males (M = 3.37) and females (M=3.82) in regards to their ratings for team orientated items. Females during the first stage of research, rated team orientation more highly than males in regards to their participation in hockey, $t(55) = -3.038, p < 0.004$.

Inferential statistics were conducted on each of the three scales for Stage Two participation data, these being 'team', 'physical' and 'self' orientated scales. Results for the 'team' scale, showed that the null hypothesis could not be rejected. There was only a small difference between males (M= 3.55) and females (M=3.74) ratings on the team scale. Males and females appeared to feel similar about team motives in their reasons for participating in hockey, $t(61) = -1.039, p > 0.303$.

For the 'physical' scale, the null hypothesis could not be rejected. There was little difference between males (M=3.52) and females (M=3.57) ratings for physical motives, meaning that both males and females endorsed physical orientation equally in regards to their reasons for participating in

physical orientation equally in regards to their reasons for participating in hockey, $t(61) = -0.317, p > 0.753$. Similarly for 'self' scale, the null hypothesis could not be rejected. Little difference was identified between males ($M=2.86$) and females ($M=2.57$) and their ratings from the 'self' orientated scale. Both males and females endorse self-orientation equally thus no significant difference was identified, $t(59) = 1.405, p > 0.165$.

Stage Three revealed only two scales, these being 'physical/team' and 'self' scales. Inferential statistics for the 'physical/team' orientation scale showed that the null hypothesis could not be rejected. There was little difference between males ($M= 2.05$) and females ($M= 2.06$) which indicated that males and females felt the same about team and physical orientation, they were equally as important to both genders, $t(54) = -0.059, p > 0.953$. For the 'self' scale, similar results were obtained where the null hypothesis could not be rejected. Again little difference was found between males ($M= 3.07$) and females ($M= 3.10$) who rated self motives as equally as important, $t(54) = -0.059, p > 0.867$.

As stated earlier, the same hypotheses were made for the discontinuation research as was seen with the participation research. Stage Two of the discontinuation research revealed two scales labelled 'combined' and 'time/variety'. For the 'combined' scale, the null hypothesis could not be rejected as there were few differences found between males ($M= 1.47$) and females ($M= 1.50$). Both males and females equally endorsed the combined scale as a reason for discontinuing hockey, $t(94) = -0.160, p > 0.874$. The null hypothesis for the Stage Two 'time/variety' scale could also not be rejected. There have been few differences found between males ($M= 2.08$) and females ($M= 2.28$) for the time/variety motives, during the discontinuation research, $t(100) = -1.119, p > 0.266$.

Stage Three data showed similar results as in Stage Two. The null hypothesis could not be rejected as males and females showed similar ratings for the combined scale. Males ($M=1.31$) and females ($M=1.60$) equally endorsed combined factors as a reason for discontinuing hockey, t

(5) = -0.866, $p > 0.426$. With the 'time/variety' scale, the null hypothesis could not be rejected as males ($M=2.25$) and females ($M=2.53$) equally endorsed the time/variety motives during the discontinuation research, $t(5) = 0.521$, $p > 0.625$.

Mean Comparisons

Having carried out both descriptive and inferential analysis, the means through each stage of the participation and discontinuation data collection were analysed and graphed (Figure 17 and 18), to allow comparisons to be made. Please note from observing Figure 17, that Stage One and Two had three scales provided, which represented the motives of participants, self, physical and team motives. For Stage Three however, only two scales were provided self and physical/team, hence the inclusion of the new component.

Figure 17 indicates that throughout the three stages of data collection, participants rating for the factor labelled 'self', have varied considerably. In the first stage the factors had a mean of 3.15, while stage two the mean increased to 3.65 and stage three saw the factor self decrease to 2.06, a considerable decrease. The following factors labelled 'physical' and 'team' were independent factors for the first two stages, however in the third stage these factors combined to form one factor, labelled 'physical/team'. For the first two stages, the 'physical factor' was quite variable, with the mean from the first stage being 3.91 and in the second stage 3.55. For the 'team' factors, results obtained were quite constant with the mean from Stage One being 3.52 and in stage two being 3.68. The 'physical/team' factor in stage three had a mean value of 3.09. In Figure 17, a dotted line represents the where the independent 'physical' and 'team' factors from Stage Two connect to the 'physical/team' factor.

Figure 17: Means from the three stages of data collection on participation motives

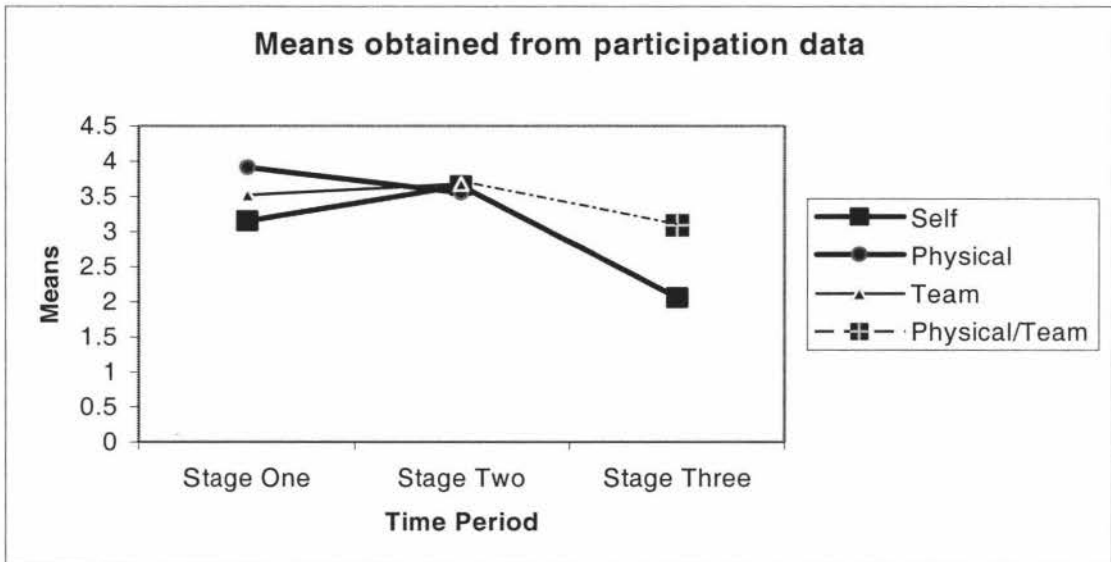


Figure 18: Means from the second and third stages of data collection on discontinuation motives

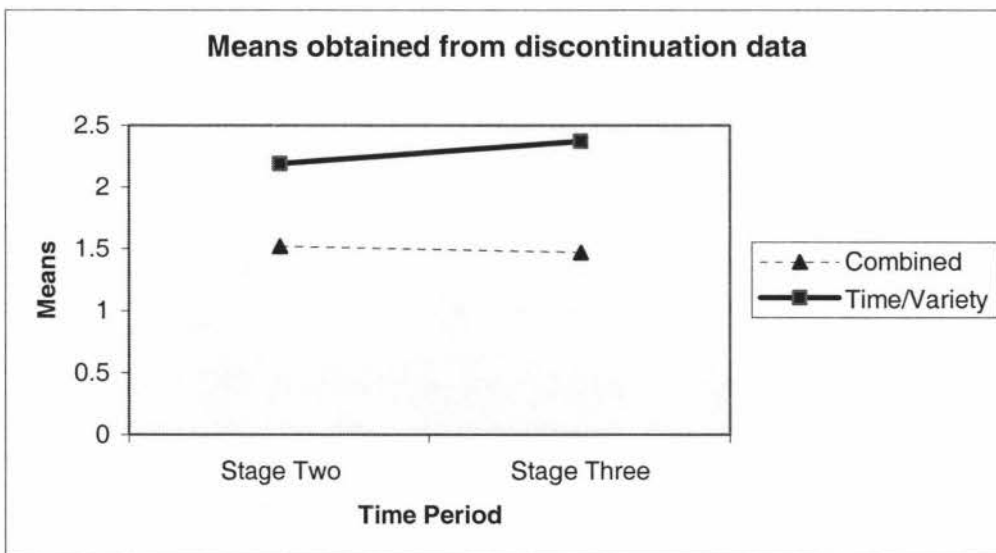


Figure 18 above, provides an outline of the means for the discontinuation factors, combined orientation and time/variety orientation. As can be seen from the above figure, there is little difference between the two factors over the two stages. The mean value provided for the combined orientation factor during the second stage is 1.52 and for the third stage is 1.47, while for the time/variety orientation, the second stage mean is 2.19 and the third stage mean is 2.37, again little difference. When discussing the Stage Three discontinuation data, there were a limited number of subjects who had discontinued playing since the Stage Two data was collected. Factor analysis could not be carried out on the stage Three discontinuation data. To compute the means, the scales obtained from the Stage Two discontinuation data were applied to the Stage Three discontinuation data with the results obtained are shown above.

QUALITATIVE RESULTS

The following information was obtained through interviews with four of the main hockey clubs in the Palmerston North/Manawatu, along with the chief executive officer for Hockey Manawatu. The data has been collated under three main headings, promotional tools, sponsorship and player retention.

In terms of the promotion of hockey, local clubs within the Palmerston North/Manawatu area have implemented various methods to both gain and retain players. Some individual clubs have employed a recruitment officer who visits schools in the immediate area, and possibly further a field, who makes contact within other associations around New Zealand with regards to players moving into the Manawatu area. Recruitment officers further can attend secondary school tournaments and representative fixtures to promote their club to both students and residents new to the region.

Promotional Tools

From interviews with clubs, information was sourced regarding promotional tools put in place by clubs. Clubs utilised advertisements both in local and community newspapers along with using local radio stations to promote their club or events being held by the club. The use of both newspaper and radio tools was beneficial, enabling clubs to inform the public regarding when trials were to be held and whom to contact should an interested member of the public be unable to attend the trials, however who is still interested in playing hockey over the coming season or just have general questions which need answering to ensure an informed decision can be made.

As an association, Hockey Manawatu has forged active communication lines to the public and club committees via the website, e-mail and newsletters, communicating information on youth/mini, junior and senior hockey matters, umpiring matters, representative news and information, and administration matters. Meetings are held on a monthly basis between a Hockey Manawatu representative and a council, which ideally contains a representative from each club (and from all levels). Discussions revolve around issues, which have been raised in previous meetings or in individual club meetings. Having a meeting involving both clubs representatives and a representative for Manawatu hockey, ensures that input and discussion can take place and that club representatives are involved in the decision making process.

Most clubs and associations set a range of goals for each season, which incorporates recruiting new players, and retaining their past and current members, these are likely to be changed on an ongoing basis as information comes to light, when there is a change to personnel or a change to situational factors.

For Hockey Manawatu as an association, setting goals and objectives and forecasting these into the future is a difficult, yet beneficial task as it assists

the association in monitoring how objectives are developing season to season while further enabling the association to notice problem areas which will need development through the current season or projected in the next season. Four areas which have been highlighted as relevant for the current strategic plan, and which have featured in past plans are areas surrounding the development of the game, producing elite athletes, administration and finance areas.

Rather than promotion via radio or newspapers, some clubs simply rely on word of mouth for promoting their club while the university sides also posted flyers around their campuses and university hostels to attract and inform both current and potential players. Word of mouth is a strong promotional tool, which can emphasise both the positive and negative points of a club, such as how a team is currently performing in the grade or past performances of that team, also whether the team contains recognised representative players, i.e. New Zealand senior level or age group representatives.

Promotions for university sides occur further through what is known as 'clubs day', which is held early in the university (February) and is a day on campus where university students and clubs can promote their sports and activities. One of the benefits of having clubs day promotions is that it enables clubs to obtain names, postal or electronic mail addresses and contact phone numbers of past and prospective players who have indicated interest in playing hockey during the upcoming season, hence contact can be made more easily.

Some clubs make contact throughout the season with their players through the form of a club newsletter, hence all current and past players addresses or contact details are kept on a database, ensuring that players can be contacted at any stage. This means that the following season players can be followed up to gauge their interest in continuing playing hockey for the club. Alternatively, newsletters can be distributed at trainings or games.

The local administrator for the Manawatu hockey association also passes on club information to interested parties regarding trial dates, times and venues (C. Wilson, personal communication, 8 October, 2002). This benefits clubs in that they gain players that otherwise may have been unaware of their particular club. Hockey Manawatu is in the process of setting a five-year strategic plan whereby objectives have been put in place to encourage people to play hockey. Areas identified to help increase player participation is the development of resources available to sport, to build and strengthen partnerships with key stakeholders, ensure effective and efficient administration and strong leadership as an overall association.

Highlighted areas in the strategic plan have been, for example elite sport development, seeing the top Manawatu representative woman's side remain in the National Hockey League (NHL) and reach first place in the next five years, while seeing the men gain entrance into the NHL. A further objective is to heighten the level of youth representative sides, seeing Manawatu youth teams reach a top six placing at their respective tournaments over the next five years.

Sponsorship

Hockey Manawatu and local clubs have also been helped by local establishments who have provided sponsorship, enabling costs to be kept down for players and assisting clubs in providing uniforms to players within their club. The increased professionalism of clubs had impacted on clubs images, in both attire and behaviour. Keeping costs down benefits clubs in maintaining players from season to season.

For most clubs in the current research, sponsorship has been through pubs, with smaller sponsors possibly providing products like drink bottles and bags. There are a number of reasons associated with why companies sponsor clubs or certain teams. Some companies sponsor events to entertain their employees, and as an effort to advertise and promote themselves. Other companies however sponsor teams and clubs, as they

want to better their image through the association with a particular sport or charity, particularly if the public has known the particular sport or charity in the past.

Changes in club promotions for some clubs over the past few years have seen the introduction of a club cell phone. This involves a member of the committee taking responsibility for incoming calls regarding hockey for their club, and answering any questions asked. Some clubs have also introduced an e-mail contact that answers any questions pertaining to that club. When discussing club promotions the researcher was interested in whether clubs provided incentives to gain players (i.e. scholarships). It was identified that established clubs with a steady sponsor could provide scholarships to one or two male or female players per season within their club as an incentive to join that particular club.

As a form of support, other clubs provided subsidised fees (i.e. NZ and Manawatu affiliation fees and turf playing and practice hire fees) to help aid their New Zealand representatives. Travelling costs for away games were further subsidised by some clubs as an additional aid. Many clubs were in still discussions at the time of interviewing whether these forms of support would filter further down to provide support for their top level Manawatu representatives in the club while other clubs were providing subsidised fees or money back to such players.

Further incentives offered by many clubs were cheaper subscriptions if the money was paid by a certain date, otherwise full subscriptions were required. In association with fee payment, players who were having difficulty paying their fees in a lump sum were offered the chance to receive the cheaper subscription while paying on a weekly or fortnightly basis via automatic payments. All clubs ultimately aimed at keeping fees for the season as low as possible, which provided incentives to play for a certain club, thanks to sponsors as mentioned earlier enabling clubs to keep fees down at a minimum.

Player retention

Questions were put to clubs regarding how clubs went about retaining their current players. Club responses indicated that players continued playing due to the satisfaction they gained from playing for their particular club or team. Clubs further stated players continued playing as their employment was unchanged and they had no reason to change clubs, they had friends and possibly a family association with the club. Many clubs cited that 'loyalty' was a big reason for why people remained faithful to their club.

Certain clubs felt players returned due to the positive clubs morale, which the club fostered, as well as the social events and functions, which many clubs promoted. For the university sides, retaining players was more of an issue as there is such a high turnover with students completing their degrees thus leaving the area to find employment.

This discussion will consider the results of the present research in light of the research objectives and the literature reviewed. Firstly the participation motivation research will be discussed and interpreted followed by that of the discontinuation motivation research. The results from the PMQ and DMQ on general motives cited for participating or discontinuation from hockey will be considered along with the qualitative data.

PARTICIPATION MOTIVATION RESEARCH

The current study sought to establish whether there were significant motives cited for why people participated in hockey after leaving secondary school, and entering either higher tertiary education or the workforce. In the context of this current study and its findings, several comparisons have been made between the ratings of the present study and other studies, which have applied Gill et al's (1983) Participation Motivation Questionnaire to their research. A variety of motives for playing hockey were found, with the main findings being discussed in the following sections.

'Having Fun'

Participants throughout each of the three stages of data collection ranked the item 'To have fun', highest. This is consistent with evidence from other studies where the 'fun' motive was within the top four motives (Gill et al., 1983; Gould et al., 1985; Klint & Weiss, 1987; Sapp & Haubensticker, 1987; Galvan, 2000; Gaskin, 2000; Hirst, 2001; Teevale, 2001). These findings were not replicated however in Longhurst and Spink's (1987) research where an absence of 'fun' was seen in the top motives, and instead fun was ranked further down the scale around ninth place. It was not obvious why discrepancies were found regarding this motive, however Longhurst and Spink (1987) suggested that fun is a generic term, which may hold less meaning for Australian children. These authors further suggested that

these children may have associated the term 'fun' with categories surrounding competition and challenge (Longhurst & Spink, 1987).

From the interviews conducted, two clubs commented that social activities and functions were an important matter for their club and were thought to help gain and retain players. Therefore these clubs have made a connection with what player's want, and are working on enhancing the enjoyment and the element of fun, both on and off the hockey field. Not all clubs, however, indicated that enjoyment or fun were features affecting player gains and retention rates. Nor did these clubs promote enjoyment and fun to participants as an aid to gain and retain players.

Other important motives were the physical orientated items ('I want to be physically fit', 'I want to stay in shape', 'I like to get exercise') that featured in the top eight motives through the three stages of the research. These results replicate the findings of other studies where fitness orientations, were viewed as significant reasons for participation (Gill et al., 1983; Gould et al, 1985; Longhurst and Spink, 1987, Gaskin, 2000; Hirst, 2001; Teevale, 2001).

Intrinsic motivation

A further finding from the present research was that although conducted with a small sample size, findings clearly indicate participants did not attribute extrinsic motives as high priorities for their participation. Motives 'I want to be popular', 'I want to gain status or recognition' and 'My parents or close friends want me to play' were the bottom three ranked items in each stage of the participation research. These results were consistent with the evidence of several other studies in the field of participation motivation (Gill et al., 1983, Gould et al., 1985; Longhurst & Spink, 1987; Brodtkin & Weiss, 1990; Gaskin, 2000). These findings furthermore, align with Vallerand and Fortier's (1998) statement that participants must be intrinsically motivated to participate in an activity.

Key factors - self, physical and team orientation

The participation motives were reduced to three factors in the first and second stages, while the third stage of the research revealed only two factors. In order of importance to hockey players, Stage One factors were self-orientation, physical orientation and team orientation, and Stage Two factors were team orientation, physical orientation and self-orientation. Factors in Stage Three were physical/team orientation and self-orientation. Hirst's (2001) research revealed a three factor solution, however loadings under each factor were different. All other studies identified a larger number of factors. Gaskin's (2000) research revealed a five-factor solution, Dwyer's (1992, cited in Koivula, 1999) research revealed a six factor solution, while Gould et al., (1985), Klint and Weiss (1986) and Teevale's (2001) research revealed a seven factor solution and Gill et al's., (1983) research revealed an eight factor solution.

Differences in the number of factors revealed could be a result of whether the research is sport specific or sport general. Hirst's (2001), Gaskin's (2000) and the present study are sports specific; therefore participants may perceive fewer motives for participation than from general studies where more sports are involved. However, Teevale's (2001) research on netball would not support this assertion. A further reason for the inconsistencies in results, could be due to the slight variation in the survey questions, focusing on a specific sport or the changes made to the five point likert scale which has been used for greater response variability as opposed to the three point likert scales used in studies by Gill et al., (1983) and Gould et al., (1985).

These reasons may be valid, although a more feasible explanation may be that stricter criteria were applied to the study to determine the rotated factor items. In the present study Cattell's (1966) scree test criteria and eigenvalues resulted in the inclusion of only three factors during Stage One and Two and two factors during Stage Three. Similar methods for revealing what the factor solution was, were used by Gaskin (2000), Hirst (2001), and

Teevale, (2001) however, Gill et al., (1983) and Gould et al., (1985) did not use this method for determining rotated factor items, within their studies.

Self-orientated items in the first stage of data collection appeared to be most important to participants ('I want to be popular', 'I like to compete', 'I like to use the equipment and facilities'). However Stage Two findings showed a change, which saw team orientated factors providing a higher rating with people for playing hockey. The third stage showed physical/team-orientated factors providing a higher loading. No other studies have looked at a sample over consecutive time periods, with all other studies on sport participation being one-off data collection. These findings indicate that as a participant's lifestyle changes (i.e. leaving school) so to does what they classify as being more important. The current findings have seen a shift from self-orientated items to team items.

Gender differences

Inferential statistics were carried out on the participation data for each stage of analysis. The scales obtained in the reliability analysis were compared to the gender of participants to see whether there were any connections. For the physical orientation scales, the null hypothesis could not be rejected through any of the three stages, as males and females equally endorsed physical motives as important reasons for participating in hockey. Gould et al., (1985) and Longhurst and Spink's (1987) research support the present study, with males and females showing similar motives for physical orientation. Koivula (1999) further support these studies, stating that positive effects on physical health are an important reason for both males and females when participating in sport. Gill et al., (1983), however, found that females tended to provide higher ratings than males on some of the physical items, which does not support current findings.

Reviewing these statistics, the self-scale revealed that during the first stage of analysis, males endorsed self-items more than females as a reason for participating in hockey. Stages Two and Three, however, found males and

females equally endorsed self-items. Caution is needed with the Stage Three self scale findings, as the alpha value was 0.6687, lower than the suggested 0.7 reliability criterion, which indicates poor internal consistency of the scale.

The team scale showed a similar pattern to self-factors with Stage One revealing that females endorsed team factors more than males, however Stages Two and Three saw males and females provide equal ratings for team motives as a reason for participating in hockey. All alpha values were reliable in these tests.

When discussing team and self-orientation, the environment created by clubs and the local hockey association are important as they help foster team and self-oriented motives. Communication between players, schools, clubs and the local hockey association has been highlighted through the interviews as an important area. Hockey Manawatu has the responsibility of communicating with all clubs in the region and in return relies on a network of clubs and schools to provide opportunities for players to pursue their hockey in a healthy environment. Established pathways have been formulated over the last few years and it is the responsibility of the Hockey Manawatu administrator to ensure these pathways remain in place, while clubs and schools also need to take responsibility.

Jain (2000) states "promotional strategies are concerned with planning, implementation and control of persuasive communication with customers" (p. 481). Such strategies can be designed around advertising and promotion of a product, such as hockey. To ensure that players obtain the correct information and maintain a long relationship with clubs and associations, the message distributed must be clear and concise. The selection of an advertising medium is influenced by factors such as the product, the target market, the extent and type of distribution, the type of message to be communicated, the budget and competitors advertising (Soloman, 2002).

DISCONTINUATION MOTIVATION RESEARCH

The present study revealed a diverse range of motives for discontinuing from hockey, as was the case with the participation data earlier in this chapter. These results replicated the findings of other studies (Hodge & Zaharopoulos, 1991; Galvan, 2000; Gaskin, 2000; Hirst, 2001). In the context of this study and the results, which have been obtained, several comparisons have been made with other discontinuation studies (Orlick, 1974; Sapp & Haubenstricker, 1978; Boothby et al., 1981; Pooley, 1981; Gould et al., 1982; Burton & Martens, 1986; Brustad, 1993; Hayashi, 1999; Galvan, 2000; Gaskin, 2000).

Stage Two data is discussed in the following section as the sample size obtained was considerably larger ($n=102$) than in the third stage ($n=7$), which means the data will be more reliable. Stage Three data will be considered, however emphasis will be placed on the Stage Two data.

The six most significant reasons identified by the participants for discontinuing hockey were due to the motives 'I didn't have time to play', 'I had to study', 'I wanted something else', 'I wanted to play another sport', 'I could not afford to play' and 'I had to work'. Orlick (1974), Sapp and Haubenstricker (1978), Pooley, (1981) and Hirst's (2001) findings support those of the present study indicating 'other things to do' and 'working' as the most influential reasons for discontinuing from sport. Gaskin's (2000) research found that 'I want to play another sport' was the number one reason for withdrawing from cricket. This finding also aligns with research by Gould et al., (1982) on swimming and Klint and Weiss (1986) on gymnastics. Butcher, Lindner & Johns (2002) meanwhile, cited 'lack of enjoyment', 'other non-sport activities' and 'other sports' as the top three motives obtained from a retrospective 10-year study on sport withdrawal.

'It wasn't fun'

Butcher, et al's., (2002) finding regarding lack of enjoyment was interesting. In the current study, 'it wasn't fun' obtained a ranking outside of the top twenty. This finding however, is not supported by other author's research relating to sport discontinuation motives, where items relating to lack of fun and interest gained a significantly higher rating (Boothby et al., 1991; Brustad; 1993; Gaskin, 2000; Galvan, 2000; Hirst, 2001; Butcher et al., 2002). This was an unexpected finding due to the fact that if fun is a major reason for hockey participation as cited by a number of authors (Sapp & Haubensticker, 1978; Gill et al., 1983; Gould et al., 1985; Klint & Weiss, 1987; Galvan, 2000; Gaskin, 2000; Hirst, 2001; Teevale, 2001) then lack of enjoyment or fun, would be expected to be an important reason for players to discontinue playing hockey. It is unclear as to why there is such a difference between the findings of the current research and findings from other authors over this item.

As mentioned with the participation research, having fun is a major issue for continuing playing hockey; hence two of the Manawatu clubs interviewed commented that social activities and functions were an important area in their club development. Ensuring that social activities are planned was an additional way of retaining players. As well as this factor, these clubs and clubs which did not refer to fun being an important motive, all placed a heavy emphasis on the financial side ensuring costs were kept as low as possible, to retain and gain players. The costs involved in hockey are obviously an important motive for players with 'I could not afford to play' being revealed in the top six reasons for withdrawing from hockey.

Costs

As mentioned above, 'I could not afford to play' was revealed to be an important motive for ceasing hockey participation. This suggests that the costs involved in playing hockey, (i.e. membership/affiliation fees and equipment costs) result in a decrease in player numbers. Qualitative

information obtained from clubs indicates that clubs are aware that costs are an issue for players.

Clubs aim to keep costs as low as possible, predominantly through sponsorship, which is aimed at encouraging participation. Clubs look to source sponsorship to aid players, by means of providing uniforms or training gear, covering away game travelling costs, and aiding New Zealand and Manawatu representative players with affiliation and turf game, as well as practice fees. Some clubs have provided the opportunity to make time-payments, if the full fees cannot be paid up front.

There are a number of reasons associated with why companies sponsor clubs or certain teams. Some companies sponsor events to entertain their customers or employees, and as an effort to advertise and promote themselves. In the Manawatu, some clubs have sponsors logos printed onto their uniforms, tracksuits and training gear, which identifies who the sponsors are. Other companies however sponsor teams and clubs, as they want to better their image through the association with a particular sport or charity, particularly if the public has known the particular sport or charity in the past. Trenberth and Collins (1999) highlight the dependant relationship that has forged between companies sponsoring and the sponsored company. Trenberth and Collins (1999) furthermore state that although both parties benefit from sponsorship, "some believe that there is a danger that sport may 'sell its soul' in an effort to secure the large sponsorship dollars" (1999, p. 35). Sponsorship also allows the hockey association to make substantial contributions to representative teams to help limit the costs required by players. In the future Hockey Manawatu mentioned that it wanted to subsidise educational courses, and run youth academies to encourage and develop players for future representative honours.

Time

The present study also identified time related motives as significant reasons for hockey discontinuation. These results support Hirst (2001) and Butcher et al's., (2002) findings from their respective research. Gaskin's (2000) results differ from findings obtained in the current research, with time-related motives not being a significant reason for withdrawal from cricket. This is interesting considering the time requirements involved in a game of cricket as opposed to hockey. Whereas hockey has a specified time limit, cricket has no such time barriers/restrictions (an exception being the length of the match in days).

Discontinuation data was obtained in March – May 2002, when students had possibly started attending a tertiary institution, or were involved in the workforce. As a result participants may have been in a new environment therefore gaining new experiences and undertaking different work responsibilities. Consequently, they may have perceived less time available for sport compared to when still at school. Due to the time restrictions of this research, it cannot be determined whether this is permanent or temporary withdrawal from hockey. Other studies have indicated that withdrawal from a specific sport may be permanent or temporary (Klint and Weiss, 1986; Gould et al., 1982). Participants may simply continue playing other sports or the same sport, at a lower level of intensity. In a study by Klint & Weiss (1986), 95% of former competitive gymnasts were participating in another sport or in gymnastics at a lower level. Similarly, Gould et al (1982) found that 68% of the youths who withdrew from competitive swimming were active in other sports, and most planned to re-enter swimming.

Key factors – combined and time/variety orientations

One hundred and two participants indicated they had discontinued their participation in hockey since the 2001 season. A two-factor solution was revealed for the discontinuation data using principal axis factoring, explaining 49.5% of the variance of the results. The two factors revealed

orientation' and 'time/variety orientation'. Contrary to what may have been expected, results obtained from the discontinuation motivation questionnaire showed that there were no specific correlations, which caused factors to be loaded together, instead it can be concluded that individuals are particular about their reasons for discontinuing hockey. Not all hockey participants rated similar reasons for withdrawing from hockey, instead a range of reasons were provided. However, in contrast to the participation motivation data, no differences were found between males and females.

The first factor, 'combined orientation' was strongly correlated containing twenty-seven items, thus dominating the findings, while the second factor had only six items. Hirst's (2001) research, revealed a three-factor solution, however contained similar items to the current research under the label of 'combined orientation'. The other two factors from Hirst's (2001) research were combined in the current research to form the 'time/variety orientation' factor.

SUMMARY

The results obtained throughout the three stages of data collection, indicate that although circumstances and lifestyles changed, participants attitudes and motives towards sports participation remained relatively consistent, for motives cited as most and least important.

Figure 9, in Chapter 2, showed the motivational model of youth sport participation, by Weiss and Chaumeton (1992). This model identified the motives for youth sport participation and broke them into surface level motives, either personal, (which contained psychological and physical) or situational. The findings obtained from the current research indicate that the main influencing motive for participants through each stage of the participation research was personal factors. The motive 'fun' fell under the psychological label, while the physical motives fell under the physical label.

For the discontinuation research, Figure 10, in Chapter 2 depicted the motivational model of youth sport withdrawal by Weiss and Chaumeton (1992), which similar to the participation model broke motives into personal or situational factors. The quantitative findings indicated that the main reasons people gave for discontinuing their participation in hockey were situational reasons. For example, a lack of time, study or work commitments, wanting to play another sport or do something else.

Overall the findings obtained from this research, conformed to Harter's (1978) competence model as reviewed in Chapter 2. Findings showed that through each participation stage, intrinsic motives were highly ranked by participants. Such items included 'To have fun', 'I like the excitement', 'I like the challenge', 'I like the team spirit', 'I like being on a team', 'I want to improve my skills' and 'I want to learn new skills'. These support Harter's (1978) competence model, which contends that when the intrinsic motivators have combined with the individual's natural desire for mastery, the outcome will be an individual who is intrinsically motivated to persist and achieve further mastery.

Furthermore participants in the third stage gave a high ranking for the item 'I like to do something I am good at' which also fits Harter's (1978) model as this finding shows that individuals have a high perception of their own ability. However, this was not the case in Stage One and Two data.

The discontinuation data however, is not supported by Harter's (1987) model. Findings from the discontinuation data indicated that situational reasons were prominent motives cited for withdrawal. The discontinuation data instead supports Nicholls' (1980) achievement goal theory. Nicholls (1980) suggests, how individuals construe ability varies developmentally, however that individual differences within developmental levels exist depending on personal character and situational factors. From the current research, the situational factors highly cited by people for discontinuing are, 'I have to work', 'I have to study' and 'I don't have time to play hockey'.

CHAPTER SIX: CONCLUSIONS

The present study investigated hockey participation and discontinuation motives of year 11, 12 and 13 students who had played hockey in the 2001 and were in the transitional phase, leaving school to attend higher tertiary education or to enter the workforce. Research was carried out in the Palmerston North/Manawatu region only and although the small number of participants involved in this study may not be representative of the entire hockey population, it provides a base from which further research into the participation/discontinuation motives of youth hockey players can be developed.

Results indicated that there were multiple reasons for participation. These results support the findings of Klint and Weiss (1986), Hodge and Zaharopoulos (1991), Galvan (2000), Gaskin (2000) and Hirst (2001). The overall reason provided throughout the research for participating in hockey was 'to have fun'. This supports other studies where the fun and enjoyment factors were ranked in the top four motives for sport participation (Gill et al., 1983; Gould et al., 1985; Klint & Weiss, 1987; Sapp & Haubensticker, 1987; Galvan, 2000; Gaskin, 2000; Hirst, 2001; Teevale, 2001).

The interviews provided information, which supports these quantitative findings. Half of the clubs interviewed stated that to maintain players numbers, they seek to provide social activities and functions, which increase player and club morale and are important attributes for retaining and gaining new players.

Findings obtained from the questionnaire data, highlighted the importance of physical items to participants, wanting to stay fit and in shape, get exercise and learn new skills. These items were highly endorsed by both males and females throughout each stage of the research, and are consistent with other research in the area (Gill et al., 1983; Gould et al., 1985; Longhurst & Spink, 1987; Gaskin, 2000; Teevale, 2001).

It could further be concluded that the timing of questionnaire administration may influence the responses given. At the end of a hockey season, self-orientation items were seen as being the most important ('I want to be popular', 'I like to use the equipment or facilities', 'I like to compete'), however when at the start of a new season, possibly a new location and environment, team motives are identified as being more important ('I like the team spirit', 'I want to meet new friends', 'I like being on a team', 'To have fun').

The current research also found that extrinsic motives were not high priorities for participants to play hockey, with the motives 'I want to be popular', 'My parent's and close friends want me to play', and 'I want to gain status or recognition' being the bottom three ranked items in the participation questionnaires. These results are consistent with other findings from several other studies in the field of sport participation (Gill et al., 1983; Gould et al., 1985; Longhurst & Spink, 1987; Brodtkin & Weiss, 1990; Gaskin, 2000; Hirst, 2001).

Multiple factors for individuals discontinuing their hockey participation were identified in this research. Hodge and Zaharopoulos (1991), Gaskin (2000), Galvan (2000) and Hirst (2001) align with this statement for their respective sport studies, and suggest that rates of player discontinuation remains a concern and requires more in-depth research to determine individuals underlying discontinuation motives and provide more rigorous and valid results.

The present study revealed motives relating to time and wanting to do something else (i.e. play another sport) were the most influential determinants for hockey participants discontinuing from the sport. These results endorse the findings from Gould et al's, (1982), Klint and Weiss's, (1986), Sapp and Haubenstricker's (1978), Gaskin's (2000), and Hirst's (2001) respective research.

Lack of fun/enjoyment was not a major motive cited by participants for discontinuing their hockey participation within the present study. This result is

consistent with the findings of other authors (Boothby et al., 1991; Brustad, 1993; Galvan, 2000; Gaskin, 2000).

IMPLICATIONS

Implications for parents, coaches and administrators

Coaching and parental influences were not among the most important reasons for individuals participating in, or discontinuing for hockey in the present study. However, Robertson (1988) and Weiss and Chaumeton (1992) suggest that there needs to be a greater awareness among coaches, administrators and parents to understand individuals motives for playing or ceasing hockey participation. Gill (2000) states that dropping out of sport may be part of a developmental transition, with many developmental transitions occurring in relation to sport across the lifespan. Therefore an increased awareness of the main contributing factors for players when deciding whether to participate or cease participation in hockey and a sensitivity on behalf of these parents, coaches and administrations to the interests, enjoyment and self-perceived perceptions of these players, will work to enable frameworks to be implemented to encourage participation and player retention. Participants are likely to continue to participate in sport, if they find the sport experience more personally satisfying and rewarding.

The current findings have a number of implications for practitioners involved in youth programs. Current findings confirm that the participants have multiple reasons for participation. Practitioners and coaches therefore can work together to assess whether sporting programmes benefit players as they strive to achieve their personal goals. Sport, however, has no fixed or constant state, thus practitioners and coaches need to be flexible enough to adapt structures and processes to suit. Coaches, if aware of player's motivations could be more orientated toward helping players fulfil these motives. Practitioners therefore need to work alongside coaches in preparing

practical sessions that satisfy individual and group diversity, and increase the likelihood that players will continue their hockey participation through the current season and beyond.

Gould et al., (1985), comment that useful coaching strategies for both practitioners and coaches, would be providing time for fun during trainings, keeping practices exciting and stimulating, helping skills acquisition and improvement, providing time for players to be with friends and team mates, providing for health enhancement, and feeling in good shape. If skill sessions are fun and stimulating for players, this in turn will provide coaches and practitioners with players who want to learn and want to get as much out of training sessions and games as possible. Paterson (1999) suggests that coaches need to be aware that they could achieve the status to participants of the 'significant other' hence should be aware of the responsibility of achieving this social status.

Practitioner's role in sport

As stated in the previous paragraph, the practitioner's role could be to work jointly with coaches to create programmes orientated toward satisfying the motives of sport expressed by participants. The present study provides an understanding into adolescent and young adult's participation and discontinuation motives toward hockey, and has highlighted the reasons why people continue playing hockey, however possibly more importantly, it has provided some insight into why participants have ceased playing hockey. The subsequent awareness of these current motives suggests that practitioners should plan effective administrative procedures and coaches should implement appropriate player orientated coaching strategies so that future problems and solutions regarding sport participation and discontinuation can be anticipated and realistically addressed.

Practitioners need to be aware of the changes facing youths today as they enter the transitional phase, leaving school and entering a tertiary institution or entering the workforce. Lifestyles and environments change as young

people move to a new town, make new friends, join new teams and clubs, start new jobs or university. If practitioners are aware of what motivates people to play hockey, they can therefore emphasis these factors at the beginning of the season. The issue that changes occur during this transitional phase is correct, however it must be recognised that change is not simply a one-off thing, but that changes will keep occurring.

SUGGESTIONS FOR FUTURE RESEARCH

This current research illustrated individual's motives towards participation and discontinuation. Understanding why individuals participate in, or discontinue playing sport will make practitioners more aware of how to attract and retain participants in sport from adolescence to adulthood. However, in light of this statement, further information is required to improve sport programs that will successfully attract and retain these participants initially.

Future research should include more longitudinal studies, rather than cross sectional studies, which look at one moment in time only. In doing so, changes to motives can be assessed and advice to aid sports associations can be given.

A further suggestion for future research is to follow the same sample of participants over an extended period of time (i.e. 5 or 10 years) and see how participant's orientation towards sport participation alters. The current research did not look at the same people through each stage, as due to an insufficient sample size obtained from the Stage One data, more subjects were sought. Furthermore, following up on the participants who had discontinued playing hockey, may reveal whether this was a temporary or permanent withdrawal decision.

Nettleton (1984) commented that in reality our knowledge is very limited concerning the results of children's participation in sport. Reasons provided were that there is no real understanding of what is really involved in

participation in sport. Participation involves all manner of experiences for all kinds of children. It is therefore difficult to generalise. There has been a great deal more research carried out on sport participation and discontinuation, since Nettleton's (1984) comments, however a recommendation for a future research avenue could be to carry out more sport specific research, rather than general studies to identify sport related motives for participation and discontinuation.

The issue that motives are sport specific could also be researched with regards to coaching and parental influence on participation. There has been little research conducted aiming to determine the effects of parental and coaching involvement on why individuals participate across a wide range of sports. Future research may provide evidence that can be used to better advise parents and coaches of their influence on the young sporting participants as well as aid practitioners in creating a sporting programme that will facilitate enjoyment and reduce the chance of participants discontinuing.

Future research should attempt to incorporate the theoretical frameworks illustrated within this report. Bandura's self-efficacy model (1977), Harter's (1978) perceived competence and Nicholl's (1984) perceived ability theories have been used in several empirical studies in the past (eg. Roberts, Kleiber & Duda, 1981; Klint & Weiss, 1987; Smith, 1998; Burton & Marten's, 1986; Ryckman & Hamel, 1993), however more studies need to incorporate the frameworks into their research. Aligning individual motivation to an existing framework would provide practitioners with a greater understanding as to why individuals participate in, or discontinue from sport.

Research testing Weiss and Chaumeton's (1992) integrated model of sport motivation has been scarce. This model attempts to link existing perspectives and address relevant socialisation and contextual factors that shape children's motivation. These theorists provide a framework in which current research can be considered, and from which future research can be continued. The components of Weiss and Chaumeton's (1992) integrated model of sport motivation could be researched with regards to individual participation and

withdrawal. Results from intended studies involving this model may attribute individual motivation to this existing framework, thus findings may provide practitioners with a greater understanding why individual's participate in, or discontinue from sport.

It would be interesting to carry out some observational studies, combined with the PMQ to see whether participant's actual behaviour mirrors what they put down on the PMQ. This would indicate to researchers how reliably the PMQ's were answered for their particular study and whether participants simply put down what they thought the researcher would want to hear.

Qualitative in-depth interviews, could take place with players who have stopped participating in sport. This would provide researchers with a more detailed understanding of why discontinuation took place, as well as assist in validating the DMQ.

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APPENDIX A: PILOT STUDY

Letter sent to schools and associations

Address
PALMERSTON NORTH

Monday 18th June 2001

Dear Sir/Madam,

Hello my name is Cushla Bowie and I am in the first year of completing a Masters degree in Sport Management at Massey University. I am a keen hockey player and believe it to be beneficial and motivating for me to study what I know and like, thus hockey. I have not yet completely chosen my research topic but am looking at "What are the motivations influence people to continue playing hockey?".

This is where I need some help. It is in the opinion of some that the most noticeable drop out in hockey is in the transition from school based hockey to club based hockey, such as university sides, college old boys and high school old boys playing sides and social sides to name a few. Others however think the biggest dropout occurs while still at school (especially for young girls, who are in development phase).

I realise that in your respective position, you are in contact with a lot of players, parents, friends and family of all age groups, so was hoping that you could help me by answering some questions to help define my research topic which are on the following page.

I look forward to hearing from you soon. If you have any questions regarding the issue or if you know of further people who it would be beneficial to talk to, please do not hesitate to contact me sending correspondence to at the above address or on 06 356 3188. Thank you for taking your time to answer these questions.

Yours faithfully

Cushla Bowie
STUDENT

YOUR OPINION REGARDING PARTICIPATION AND DROP OUT OF HOCKEY PLAYERS...

1. Where do you think the largest drop out of players is? At what age groups?
2. In your opinion, why do you think people drop out of hockey?
3. In your opinion, what do you think keeps people involved in sport?

APPENDIX B: LETTER SENT TO SCHOOL PRINCIPALS

Date

The Principal
College
Address
Location

Dear Principal,

I am a Masters student from the Department of Management Systems at Massey University. This year as part of my studies, I am writing a research report that is based upon identifying motivations influencing people to continue playing hockey after the transition from school to club.

To enable the successful fulfilment of the study, a reasonable number of students need to participate. In order to do so, I will aim to obtain information from all secondary schools in the Palmerston North/ Manawatu region. I would like to survey all males and female hockey players who are leaving school this year and are year 11, 12 or 13.

I would like to administer the questionnaire before the end of the year. I will also gain consent from students before administering the questionnaire. I will contact students next year on two separate occasions, once in early April and once in June/July. However I will get back into contact with the school to ensure that of those students surveyed, none have returned to school. I will conduct the study at a time appropriate to you, where I am able to talk to those relevant students.

Enclosed is a copy of the consent letter for you, a consent letter which students will receive, and an information sheet. If you could inform me of a suitable time(s) to visit and implement my research, as 6th formers will be finishing study shortly and 5th and 7th formation will be busy with exam preparation. I need to collect data before the end of the year and am flexible as to when this can be done. If this means approaching hockey teams as a whole and going from there, that is fine. Your consent form does not need to be sent back, as I can collect it on my visit to your school, however any indication of the number of students involved would be greatly appreciated.

I am hoping that the results obtained from this research are beneficial not only to Manawatu Hockey association, but also to schools, giving relevant data concerning continuation and discontinuation within the region.

Thank you for your assistance, time and effort, it will be very much appreciated.

Yours sincerely

Motivations influencing people to continue playing hockey after the transition from school to club

INFORMATION SHEET

Who is the researcher and where can she be contacted?

This study is being conducted by Cushla Bowie, in the Sport Management programme, Department of Management Systems, Massey University. Cushla can be contacted at 06 356 3188 (Home) or on 025 215 9049. Cushla's supervisor for the first stage of research is Ralph Stablein. Ralph can be contacted at Massey on 350 5799 extension 2795 or fax 06 350 5661.

What is the survey about?

The survey looks at the motivations influencing people to continue playing hockey after the transition from school to club.

What will I be asked to do?

This is one of three surveys, which will be conducted for the research. This will be the only survey for this year, however contact will be made and two more surveys will be carried out, one in early April and one around June/July of next year.

How much time will be involved?

This questionnaire will take around 10 minutes to complete. A small number of respondents may be approached for a short interview at any of the three surveying times.

What can I expect from the researcher?

If you choose to take part in this study, you have the right to:

- To decline to participate.
- Contact the researcher at any time to discuss any aspects of the study.
- Refuse to answer any question or withdraw from the study at any time.
- Provide information on the clear understanding that it is completely in confidence to the researcher, to be used only for purposes of research and publication based on the research.
- Provide information with an understanding that individual names are not used in results.
- Access information about the results of the study on its completion.

If you choose to take part in this survey, please complete the consent form on the next page. You may then begin to answer the questions provided in the questionnaire.

Finally, I would like to thank you for your co-operation.

APPENDIX D: CONSENT FORM FOR PRINCIPALS

Motivations influencing people to continue playing hockey after the transition from school to club

I _____(name)_____ from _____(school) _____ consent to my students participating in the study being conducted by Cushla Bowie. It is further understood that I have received the following information concerning the study:

- The study has been explained to me, I understand the explanation that has been given and what student participation will involve.
- I understand that student participation is voluntary.
- I understand that students are able to discontinue participation in the study at any time without penalty.
- I understand that student's individual responses will remain anonymous.
- I understand information students provide to the researcher is on the understanding that their name will not be used without permission and that information provided will only be used for this research and publications arising from the research project.
- I understand that at student's request, I can receive additional explanation of the study at any further time.
- I agree to allow students at my school to participate in this study under the conditions set out in the information sheet.

Signed _____

Name _____

Date _____

APPENDIX E: CONSENT FORM FOR STUDENTS

Motivations influencing people to continue playing hockey after the transition from school to club.

I _____ (*name*) ___ from _____ (*school*) _____ consent to participate in the study being conducted by Cushla Bowie. It is further understood that I have received the following information concerning the study:

- The study has been explained to me, I understand the explanation that has been given and what my participation will involve.
- I understand that my participation is voluntary.
- I understand that I am free to discontinue my participation in the study at any time without penalty or decline to answer any particular questions.
- I agree to provide information to the researcher on the understanding that my name will not be used without my permission and that information I provide will only be used for this research and publications arising from this research project.
- I understand that my individual responses will remain anonymous.
- I understand that at my request, I can receive additional explanation of the study at any further time.
- I agree to participate in this study under the conditions set out in the information sheet.

Signed _____ Name _____

Date _____

APPENDIX F: PARTICIPATION MOTIVATION QUESTIONNAIRE (PMQ)

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 hockey. For each item please indicate in the box, the number that indicates how important each item is to you.

		1	2	3	4	5
		Not at all Important	Not Very Important	Somewhat Important	Very Important	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 make 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 |
| 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 onto 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. I like the coaches or instructors. | 1 | 2 | 3 | 4 | 5 |
| 28. I want to gain status or recognition. | 1 | 2 | 3 | 4 | 5 |
| 29. 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, can you please write the number in the box below of the reason most important to you.

Initials: _____

Phone Number: _____

E-Mail address: (if changed) _____

Year Born: _____

Gender: _____

**APPENDIX G: DISCONTINUATION MOTIVATION QUESTIONNAIRE
(DMQ)**

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 hockey. For each item, please indicate in the box, the number that indicates how important each item is to you.

	1	2	3	4	5			
	Not at all	Not very	Somewhat	Very	Extremely			
	Important	Important	Important	Important	Important			
1. I was too competitive.				1	2	3	4	5
2. My coach did not support me.				1	2	3	4	5
3. I wasn't successful at playing hockey.				1	2	3	4	5
4. I wanted to do something else.				1	2	3	4	5
5. I had to work				1	2	3	4	5
6. The games took too long to play.				1	2	3	4	5
7. I could not afford the equipment to play.				1	2	3	4	5
8. It was boring.				1	2	3	4	5
9. My parents didn't support me playing hockey.				1	2	3	4	5
10. I didn't have the time to play.				1	2	3	4	5
11. I didn't like the coach.				1	2	3	4	5
12. I wanted to play another sport.				1	2	3	4	5
13. I didn't like the pressure.				1	2	3	4	5
14. I wasn't good at playing hockey.				1	2	3	4	5

15. I didn't feel important.	1	2	3	4	5
16. It wasn't fun.	1	2	3	4	5
17. My friends stopped playing hockey.	1	2	3	4	5
18. I could not afford to play.	1	2	3	4	5
19. I was injured and could not play.	1	2	3	4	5
20. I did not get along with other players in the team.	1	2	3	4	5
21. I was not asked to play again.	1	2	3	4	5
22. My parents didn't want me to play.	1	2	3	4	5
23. I didn't want to get injured.	1	2	3	4	5
24. The practices took up too much time.	1	2	3	4	5
25. I didn't know where to join a team.	1	2	3	4	5
26. I did not like how long I had to travel.	1	2	3	4	5
27. The practices/playing facilities were poor.	1	2	3	4	5
28. I was not accepted by other players in the team.	1	2	3	4	5
29. I was not fit enough.	1	2	3	4	5
30. I did not want to let my coach or team mates down.	1	2	3	4	5
31. I didn't get to play in the position I wanted.	1	2	3	4	5
32. I had to study.	1	2	3	4	5
33. I did not find a team to play in at the start of the season.	1	2	3	4	5

- | | | | | | |
|---|---|---|---|---|---|
| 34. I was not improving. | 1 | 2 | 3 | 4 | 5 |
| 35. I worried about playing hockey | 1 | 2 | 3 | 4 | 5 |
| 36. I didn't get the ball often enough. | 1 | 2 | 3 | 4 | 5 |
| 37. I never got involved in the game. | 1 | 2 | 3 | 4 | 5 |

38. From the reasons listed above, please indicate in the box below the number of the reason, which is most important for you.

Initials: _____

Phone Number: _____

E-mail address (if changed): _____

Year Born: _____

Gender: _____

APPENDIX H: HOCKEY CLUBS INTERVIEW QUESTIONS

- 1 How did you go about promoting your club?
- 2 Was this promotion the same as in the past years? Or what changes have you made?
- 3 What incentives (if any) do you offer your players?
- 4 Do you provide scholarships?
- 5 What is the main way that you gain players?
- 6 How do you go about retaining your current players?
- 7 Is there any further information you would like to provide?

APPENDIX I: HOCKEY ASSOCIATION QUESTIONS

- 1 How do you go about encouraging players to come to the Manawatu?
- 2 How do you go about retaining these players?
- 3 How do you encourage people to play hockey? What strategies (if any) do you have in place?
- 4 Does your strategic plan have areas focusing on player gains and retention rates? Have these areas been a problem in the past?
- 5 How have your visions changed since your last strategic plans? If you are aware of any changes?
- 6 Is there anything else you would like to add?