

**Athletes' Perceptions of Sport and Education: A Comparison of High School 4A
Basketball Players and Midget AAA Hockey Players in Alberta**

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Dedication

This master's thesis is dedicated to my loving family (wife Rhonda, son Braden, and daughter Brooke) for their unconditional love and support. They provided patience, encouragement, and made personal sacrifices for me to complete the Master of Education Degree from the University Lethbridge. Especially to my wife Rhonda who was always available to give me a boost when my battery seemed low. I also dedicate this thesis to my parents who shared many great hockey memories together while I was a player.

Abstract

This study focused on student athletes' perceptions of sport and education. The following research question was used to establish a framework for this thesis: Is there a significant difference in athletes' perceptions of sport and education between 4A varsity basketball players and midget AAA hockey players in Alberta? The independent variable was the sport category (hockey or basketball) and the dependent variable was the athletes' responses to the survey. A self-developed survey instrument entitled Sport and Education Survey (ESS) was utilized to gather information. The survey drew upon thirteen statements that were grouped according to their relevance to each hypothesis. Five additional statements were included for the purpose of categorization, description and discussion. The survey was administered to a sample of 158 males who played either hockey or basketball and were currently in grades 10, 11 or 12. An approximate equal representation was reached by surveying four hockey teams and eight basketball teams. Three hypotheses were examined and tested: H1) There is a significant difference in perceptions of education between 4A varsity basketball players and midget AAA hockey players in Alberta. H2) There is a significant difference in perceptions of sport between 4A varsity basketball players and midget AAA hockey players in Alberta. H3) There is a significant difference in perceptions of post-secondary education between 4A varsity basketball players and midget AAA hockey players in Alberta. Testing the hypotheses required the use of the Chi-square test in cross tabulations. H1 and H3 are rejected: the findings indicate that both groups are concerned about their performance in education and they plan to attend post-secondary education. H2 is supported: 76.3% of hockey players at the midget AAA level were planning to become professional athletes, while only 35.4% of 4A basketball players were planning to become professional athletes. Upon

high school graduation most midget AAA hockey players' choose to apprentice in the junior hockey ranks in hopes of becoming a professional athlete or to receive an athletic scholarship. Whereas the priority among most 4A basketball players is to immediately attend college or university on a fulltime basis with or without an athletic scholarship.

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Introduction

On August 25-27, 1999, The Molson Open Ice Summit brought together Canadian hockey constituents from all levels to examine the state of hockey in Canada. The primary purpose of the summit was to develop recommendations to enhance player development at the grassroots level (Canadian Hockey Association [CHA], 1999, www.canadianhockey.ca/openice). After two days of presentations and discussions, participants collectively agreed upon eleven recommendations for hockey in Canada. Recommendation 10 is of particular interest, since it proposes “To promote cooperative efforts between school boards, local hockey associations and sponsors, to better utilize ice times and school facilities and move toward development of sport schools.” (CHA, 1999, www.canadianhockey.ca/e/index.html).

Hockey Canada suggests this recommendation is a step toward copying the European model of a sport school, where children combine academic and athletic interests (CHA, 1999, www.canadianhockey.ca/e/index.html). Such schools provide an educational program that fosters student athlete development by allowing aspiring young athletes more opportunities to practice (King & Kinding, 2001). Children attend school for a half-day, followed by a half-day of sport practice.

A primary issue for hockey constituents across Canada is the fact that hockey for adolescents is separated from formal schooling, unlike school-sponsored sports such as basketball, football, and volleyball. Sports programs, like educational programs (especially when sponsored by schools) are considered to be an exceptional form of teaching that expands far beyond the subject matter. Bachman & O’Malley (1986, cited in Koran, 1989, p. 3) suggest “Schools that provide tangible indications of student worth, and schools that encourage emotional, physical, social, as well as academic growth, are

more effective than schools that simply receive students, process them, and send them on their way". Therefore, school-sponsored sports programs may provide evidence of student athlete worth, provided they also address the emotional, social and academic growth defined above. Pressley and Whitley (1996, p. 74) believe that "Expanding co-curricular activities may also be the cheapest means of improving academic performances as well as instilling socially acceptable values and norms of conduct in young people." Ultimately, students participating in school-sponsored sports programs tend to demonstrate attitudes toward sport and education where their emphasis is on achievement in combining academics with athletics as part of their preparation to enter college with idealistic and optimistic goals toward their academic and athletic careers (NFSHA, 1998).

Purpose and Rationale of the Study

Research is needed concerning the developmental perceptions that student athletes acquire while participating in sport. More specifically, research concerning the development of hockey players in Canada, and the perceptions that they hold toward sport and education has raised significant concern regarding player development due to the fact that very few hockey players actually realize their boyhood dream of playing professional hockey (CHA, 1999; Donnelly, 2000; Thom, 1978; Wallner, 1990). Desjardins (1991) researched the experiences of junior hockey players and challenges they faced while making the transition into post-secondary education upon realizing that becoming a professional hockey player was not going to be a reality. The following figures reported by Desjardins (1991) are alarming because the majority young hockey players believe they are going to play in the National Hockey League (NHL) and many of these players put education second to their hockey development:

Of the 14,000 or so kids who start playing hockey each year, approximately 120 will graduate to Jr. hockey and 9.7 to the NHL. These figures indicate that 95% of the players who start will have to drop out of elite hockey (WHL, U.S. College, and Canadian University) by the time they are 20 years old, and of the remaining 5%, another 80% will be faced with a career transition after five years. (p. 40)

These figures raise an interesting question: does the fact that hockey is not a school-sponsored sport affect young athletes' perceptions of their sport and their education? The purpose of this study is to compare midget AAA hockey players (non school-sponsored athletes) and 4A varsity basketball players (school-sponsored athletes) self-reported perceptions of their sport and education.

An editorial in The Globe and Mail (cited in Donnelly, 2000, p. 193) suggests that hockey should be returned to the schools: "Children should be taught by teachers... Schools will be able to enforce high practice-to-game ratios, and encourage the ethos of learning." One prominent secondary school affected by this suggestion was St. Michael's College in Toronto, Ontario. In 1961 its administration withdrew St. Michael's major junior hockey program from the Ontario Hockey Association, arguing that the value of combining academics with athletics had been lost to increased game schedules and the movement toward professionalism within the league (Wallner, 1990). Junior hockey returned to St. Michael's College 36 years later to complement the College's four high school teams, two junior teams, and Senior and Junior house league for students interested in playing recreational hockey. St. Michael's College School promotes the opportunity and advisability of integrating sports and academics: "Its hockey program respects the academic nature of the school and the necessity of playing hockey within that framework, and as a result many St. Michael's graduates have gone on to become artists,

architects, jurists, builders, religious educators, craftsmen, athletes, monks, engineers, businessmen, researchers, academics and politicians” (St. Michael’s College School, 2002). St. Michael’s College is athlete-centered in its approach to hockey, with a focus on developing the student within the athlete. The school claims to have contributed significantly to the academic, athletic and social development of its graduates (St. Michael’s College School, 2002).

Thom (1978) investigated the relationship between participation in various types of hockey and academic and social performance in secondary schools in Ontario, Canada. In this study, participation in school-sponsored hockey was found to be beneficial for student athletes’ performance in school. This same study also indicated that “Participation in competitive non school-sponsored leagues is accompanied by poor school grades, poor attendance, decreased educational aspirations, and the choosing of subjectively easier academic programs” (Thom & Ward, 1980, p.11).

There is widespread concern about the development of young student hockey players and their perceptions of education and hockey (Canadian Hockey Association, 1999; Desjardins, 1991; Donnelly, 2000; Thom, 1978; Wallner, 1990). When young hockey players realize that they are not going to play in the NHL, one of the final steps on their hockey path is college or university (Desjardins, 1991). Desjardins (1991) found that elite junior-aged hockey players put hockey at the center of their lives, with everything else revolving around hockey. These athletes experienced problems making the transition to a university career, possibly because their primary focus, and that of most people around them, was on hockey as opposed to academic learning.

With the exception of the large metropolitan areas of eastern Canada, hockey is segregated from most secondary schools in Canada, and consequently the athletes

become segregated as well. "Hockey, the most popular sport for male participation in Canada, is organized only as a community sport in most areas" (Eitzen & Sage, 1997, p. 82), whereas other sports such as basketball, football, soccer, volleyball, and badminton are usually integrated into Canadian high school athletic programs. In 1998/99, the total number of athletes registered with the Canadian Hockey Association was 508 836 (CHA, 1999). Every year the segregation of hockey from school challenges hundreds of student athletes in grades 10 to 12 playing on midget AAA and junior hockey teams across the country, in realizing their academic, athletic, and social potential. The demanding after-school training schedules, three to four times a week (minimum 3 hours daily for preparation, practice, commuting, and so on) and extended game schedules put tremendous constraints on the student athletes' development. It is clear that midget AAA and junior A hockey players are often prevented from pursuing outside interests, skills, and education in order to pursue their careers in hockey (McPherson, 1980; Orlick & Werthner, 1986).

School-sponsored and non school-sponsored sports are accompanied by different sets of values, which also affect student athletes' attitudes toward sport and education (Thom, 1978). Schools value the combining of academic and athletic achievement and the need for professional educators as facilitators of learning; on the other hand, elite hockey leagues such as midget AAA value development of the athlete, winning championships, and coaches that can achieve those goals (Houston, 2000). To add to the problem of a sport delivery system that overemphasizes winning as apposed to development, coaches involved with hockey at elite levels are often individuals who themselves played as youths in Canada's hockey system; coaches tend to pass on the same values that they grew up with as a hockey players (McPherson, 1974), and these

values often do not include encouraging players to focus on other areas of development such as education and civility.

Furthermore, hockey players that compete in non-school sponsored competitive hockey place less emphasis on schooling than do athletes of school-sponsored hockey (Desjardins, 1991; Thom, 1978). Caldwell (1997) suggests that a student athlete's environment, which is comprised of school, climate, teachers, coaches, and parents, helps to shape his or her perceptions; in this environment the peer group is the single most potent source of influence on the development of the student athlete. Therefore, student athletes are more likely to possess a stronger commitment toward combining academics and athletics if they are associated with programs that value achievement in successfully combining both sport and education (King & Kinding, 2001; Thom, 1979).

Description and analysis of student athlete perceptions of sport and education could provide teachers, parents, student athletes, coaches and administrators with a richer understanding of how schools and sport officials address issues concerning the development of student athletes. The data may also lead to new insights into the development of hockey players, and the benefits of linking hockey with education. Furthermore, the findings of this study will help to give leaders in both education and hockey a better understanding of how to bridge the gap between hockey and schooling.

Research Question

Hockey is part of Canada's social fabric: it is one interest to which most Canadian males can relate, and it is critical to Canada's sport identity (Houston, 2000). This study is being undertaken at a time when hockey officials across the country are questioning the development of what once was called "Canada's Game." As Houston (2000) claims, "Canadian youth hockey has become a wasteland for children who have been denied

proper training” (p.194). According to Houston, when young people at the age of 12 or 13 years old are leaving the game in droves, it is obvious there is a problem. One of the key problems being ignored by minor hockey associations and school boards across the country is that hockey and secondary education are not meshed with one another (CHA, 1999; King & Kinding, 2001; Houston, 2000). This separation of hockey from education may be a contributing factor to the problem of a sport delivery system that overemphasizes becoming a professional athlete (Houston, 2000). A sport delivery system that is narrow in its focus may contribute to poor self-esteem, loss of identity, and inability to cope with post-hockey career transition in athletes who are unsuccessful in becoming professional athletes (Desjardins, 1991). Understanding how student athletes perceive sport and education while attending high school may provide information that is necessary for improving the delivery of sport.

This study addresses the following primary research question: Is there a significant difference in athletes’ perceptions of sport and education when comparing 4A varsity basketball players and midget AAA hockey players in Alberta?

This study will test the following hypotheses:

- H1 There is a significant difference in perceptions of education between 4A varsity basketball players and midget AAA hockey players in Alberta.
- H2 There is a significant difference in perceptions of sport between 4A varsity basketball players and midget AAA hockey players in Alberta.
- H3 There is a significant difference in perceptions of post-secondary education between 4A varsity basketball players and midget AAA hockey players in Alberta.

This study explores the delivery of both school sponsored and non-school sponsored sport and how participation in a particular sport may contribute to the shaping of student athletes perceptions of sport and education. More specifically, the hypotheses compare perceptions of 4A varsity basketball players and midget AAA hockey players in Alberta to determine whether the two athlete groups share similar or different perceptions of sport and education. The findings of this study should provide a better understanding of student athlete perceptions of sport and education, and may also contribute to the theory of planned behavior (Ajzen, 1991).

Key Terms

Through the use of Websters New World Dictionary and Thesaurus (1997), Ajzen's Theory of Planned Behavior (Ajzen & Driver, 1991), and as discussed throughout the literature review in this study, the following key terms are supported:

Intention - is an indication of how hard people are willing to try and of how much an effort they are planning to exert, in order to perform the behavior. Influenced by three components: person's attitude toward performing the behavior, the perceived social pressure, called subjective norm and perceived behavioral control. It's the act or fact of intending, the determination to do a specified thing or act in a specified manner.

Attitude - is the first determinant of behavioral intention. It is the degree to which the person has a favorable or unfavorable evaluation of the behavior in question. It's a manner of acting, feeling and thinking that show ones disposition, opinion etc.

Perception – is ones impression, position and outlook that have been formed through awareness, senses and comprehension.

Scope of the Research

1. The sample for this research is limited to grade 10, 11 and 12 student athletes participating in 4A basketball or midget AAA hockey in the province of Alberta.
2. The research sample of 158 student athletes represents 4 hockey teams (76 responses), and 7 basketball teams (82 responses).
3. This study is not concerned with the socio-economic background of the participants.
4. Responses may not be representative of all student athletes in the province of Alberta.
5. This study will utilize a survey instrument as the primary device for gathering data.
6. Because there are no professional hockey leagues available to women where they can earn a decent salary comparable to other professional sports, this study only concerns itself with male student athletes'.

Review of Literature

Theoretical Orientation

The research question and hypotheses are based on the following assumption: an environment that is fostered by parents, coaches and teachers, one that invites, attracts, helps, and stimulates students to combine academic and athletic achievement, can have a powerful influence on students' feelings of attachment and commitment to their school, their sport and to the formation of their post-secondary goals. The theoretical foundation of this study was based on the school performance literature that Thom (1978) refers to, Ajzen's theory of planned behavior (2002 & 1991), as well as the student motivation literature cited in Raffini (1993). The literature selected for this review expands upon the issues involved with non school-sponsored hockey and with hockey in general. This review also explores the contribution of school-sponsored sports to meeting the affective needs of student athletes, and influence of school-sponsored sports on the academic, athletic and social development of high school student athletes.

The Theory of Planned Behavior

The theory of planned behavior, which has emerged as one of the most influential and popular conceptual frameworks for the study of human action, is guided by three kinds of considerations: behavioral beliefs, normative beliefs and control beliefs (Ajzen, 2002). Ajzen & Driver, (1991) suggest that it is these beliefs that are considered to be the prevailing determinants of a person's actions. The behavioral beliefs are assumed to influence attitudes toward the behavior; the normative beliefs constitute the underlying determinants of subjective norms; and the control beliefs provide the basis for perceptions of behavioral control (Ajzen & Driver, 1991). A central factor in the theory of planned behavior is the individual's intention to perform a given behavior (Ajzen,

1991). Ajzen suggests (1991, p. 181) that, "Intentions are assumed to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior." For example, a student athlete whose intention is to receive an athletic scholarship has two motivating factors (athletics and academics) influencing his behavior. The behavioral belief of the student athlete is that he is required to work hard and exert a concentrated effort in order to perform well academically and athletically. The normative belief is that the student athlete will need to pass specific classes with a certain grade point average, and be able to perform athletically at an acceptable level. The control belief is that the student athlete perceives that the likelihood of performing the necessary athletic and academic behavior may produce the desired outcome of receiving an athletic scholarship.

The Need for Self-Worth

Raffini (1993) notes that, in addition to Maslow's hierarchy of human needs, four major psychological needs significantly influence students' motivation to learn in the classroom: positive self-worth, autonomy, competence, and group relatedness. Varsity sports and minor hockey programs provide their own subcultures that may contribute to positive self-worth, autonomy, competence, and group relatedness. However, sports that are associated with schools also may emphasize academics and post-secondary education, while minor hockey programs generally do not (Desjardins, 1991; Donnelly, 2000; Thom, 1978). When the individuals who are involved in a student athlete's life support these needs, the performance outcomes, whether academic, athletic, or social in nature, contribute to increased feelings of attachment and commitment to school, to their sport, and to the formation of student athlete post-secondary goals (Coakley, 1990; Donnelly,

2000; Marsh, 1992; NFSHA, 1998; Spreitzer & Pugh, 1973; Zaugg, 1998). Desjardins' (1991) research on junior hockey players supports the notion that student athletes' self-worth is narrowed and often lowered when they are associated with elite non school-sponsored hockey. Between the ages of 12 and 16, when a male hockey player has developed skills and matured, he is considered to be worthy of playing junior hockey (Desjardins, 1991). During this time, and at the expense of family, friends, education, and other career goals, hockey becomes the focus of the athlete's life as he attempts to make it as a professional (Broom, 1981). Former junior hockey players who were interviewed by Desjardins (1991) made the following statements:

- School wasn't that important. Coaches and the General Manager put up the screen to get young players; they say all players go to school all the time. This is not true...it is never going to be true...you would only hear things about not going to school if you were not playing well (p. 109).
- People outside of the teams would talk about hockey 90% of the time (p. 119).
- I would say 99% of the people talk to me as a hockey player (p. 119).
- I was prepared to sacrifice my school for hockey, in fact I was prepared to sacrifice a lot for hockey (p. 127).
- Hockey was my main focus and everything else pretty well revolved around hockey. There was really nothing else of significance to interfere with hockey (p. 127).

Desjardins (1991) inferred that a major junior hockey player's self-worth and identity is rooted in hockey and that hockey serves as the motivating factor in his development, which makes it difficult for hockey players to make the career transition from major junior hockey to successfully attending college or university (Desjardins, 1991; Dryden

& MacGregor, 1989). This is alarming, considering that at least 85% of players in junior hockey are forced to retire when they are 19 or 20 (Desjardins, 1991).

The need for self-worth is sometimes referred to as the *self-worth motive*, in which all individuals seek to enhance, maintain, and protect the perceptions they hold of their self-image (Covington, 1984, cited in Raffini, 1993). Covington's theory assumes that "All people have a need to seek experiences that generate feelings of success, accomplishment, and esteem and to avoid experiences that generate feelings of failure, worthlessness, and social disapproval" (Raffini, 1993, p.15). School-sponsored sport links self-worth and school achievement to athletics with student athlete scholar awards and highest team grade point average awards. With hockey set apart from school, the hockey player is challenged in finding self-worth within the educational environment (Desjardins, 1991; Thom, 1978). Conversely, the literature suggests that a varsity athlete's need for self-worth is met in the context of the school community (Donnelly, 2000; Marsh, 1992; NFSHA, 1998; Spreitzer & Pugh, 1973; Zaugg, 1998).

School-Sponsored Sport

It is unclear whether the positive student athlete experience is caused by participation in school sponsored sports programs alone. However, when the athletic environment is linked with education, and when people are just as serious about the student as they are about the athlete, positive changes such as improved study habits and class attendance occur in the student's academic life (Coakley, 1990). Sport is an integral component of the school community and an extension of the educational environment, which contributes to learning and academic achievement. Numerous studies support the claim that athletes in school-sponsored sports show higher academic achievement, aspire to post-secondary success, have higher grade point averages and lower dropout rates, and

develop enhanced affiliation and commitment to school (Donnelly, 2000; Marsh, 1992; NFSHA, 1998; Spreitzer & Pugh, 1973; Zaugg, 1998). Broom (1980), Donnelly (2000), Picou and Curry (1974), and more specifically Thom (1978) all affirm the notion that school-sponsored sport contributes to learning and academic achievement.

Thom (1978) set out to examine the relationship between youths' participation in hockey and their school performance. Thom's study addressed the relationship between participation in various types of hockey and academic and social performance in the secondary school. Thom's sample of 825 males came from eight Ontario secondary schools that represented a cross-section of all high school grade years. Thom used path analysis to compare high school students playing school-sponsored all-star and house-league hockey with those playing recreational and school-sponsored hockey. He also included non hockey-playing peers in the study. Data analysis confirmed (at the .05 level) Thom's thesis that participation in non school-sponsored hockey is accompanied by declining secondary-school performance, whereas participation in hockey programs organized by the secondary school was associated with improved school performance and educational aspirations. In years 1 and 2 of his study there was a 34.6 per cent variance in Spring academic achievement and 55.7 per cent variance in educational aspirations; for year 3 and above, there was a 36.2 per cent and 60.3 per cent variance between high school students playing school-sponsored all-star and house-league hockey with those playing recreational and school-sponsored hockey (Thom, 1978).

The research has supported the idea that school-sponsored sports positively influence student athletes' academic, athletic and social development. Zaugg (1998) studied the academic performance, behavior, and commitment of basketball and volleyball athletes and non-athletes in a rural Canadian high school. The study compared

mid-term and final grades in each school discipline, disciplinary issues, and the mean weekly time commitment for athletes in each sport. The study found that the athlete group scored higher on mid-term and final grades than the non-athlete group. The study also found that athletes had fewer behavioral problems (i.e., inappropriate behavior and conduct, and absenteeism) than non-athletes.

A study by Picou and Curry (1974) assessed the nature of the relationship between athletic participation and educational aspiration. Picou and Curry found that participation in interscholastic high school athletics is positively related to an increased level of educational aspiration for both rural and urban youths. However, Picou and Curry also discussed how the higher level of educational aspiration observed among high school athletes could be interpreted in different ways. For example, the athlete may receive more personal academic encouragement and counselling from coaches, teachers, and peers because of his or her varsity athlete status. Varsity athletes are often required to maintain minimum grade point averages to retain their student athlete status, leading to a greater focus on their studies. Additionally, the opportunity for an athletic scholarship may motivate athletes to work hard for good grades, resulting in increased educational aspirations (Picou & Curry, 1974). Research also indicates that an athlete who is in frequent contact with middle-class peers with college aspirations may be influenced in favour of attaining a college education (Rehberg, 1969, cited in Picou & Curry, 1974; Rehberg & Schafer, 1968; Spady, 1970).

Howell, Miracle and Rees (1990) found that sport participation in high school was related to later college-level educational attainment. Using the same sample in another study, they determined that some forms of sport participation affected several measures of educational/occupational motivation, such as valuing academic achievement, self-

esteem, college plans, occupational plans, and positive attitudes toward the high school experience (Howell et al., 1990).

Interestingly, Melnick, Sabo and Vanfossen (1992) found different effects of sport participation among Hispanic boys and girls from urban, suburban, and rural area middle schools, including the following findings:

- Sport participation served as a social resource for minority students by enhancing popularity and involvement with peers.
- Minority athletes were more involved in their schools and communities than non-athletes.
- Sport participation positively affected mostly suburban youth on perceived popularity, extracurricular involvement, school grades, standardized achievement scores, dropout rates, educational aspirations, college attendance, degree sought, and advancement in college.

In 1990, Snyder and Spreitzer performed a study relating high school athletic participation to college attendance among black, Hispanic, and white males. On the basis of their findings, they suggested six reasons why participation in sport may enhance academic outcomes: 1) increased interest in school, including academic pursuits; 2) high academic achievement in order to maintain playing eligibility; 3) increased self-concept that generalizes to academic achievement; 4) increased attention from coaches, parents and teachers; 5) membership in varsity teams and an orientation toward academic success through the college/university ranks; and 6) expectations of participation in college sport.

Non School-Sponsored Sport

Houston (2000) suggests that for adequate student athlete development to occur, those involved with athletics should adopt a humanistic approach toward development.

A humanistic approach within any sports environment considers a developmental focus based on values, where what is learned through sport can be applied later in life (Houston, 2000). This type of approach places greater emphasis on helping young athletes develop physically, intellectually and socially, ultimately to become positive contributors to society upon completing their schooling. Whether drawing up practice schedules, devising game plans, or being physically, mentally and emotionally ready to handle the daily challenges of varsity athletics, high school coaches realize that to be effective they must focus on influencing young people's lives in positive ways -- not just winning championships and developing elite athletes (Vaughn, 1997). This broader philosophical view is critical for the development of all student athletes, regardless of school sponsorship. All athletes, whether or not they become professionals, require the essential life skills to conduct themselves appropriately in society.

The literature also suggests that an individual's social environment, whether at work or play, and the environments to which he or she has been exposed in the past greatly influences behavior. McPherson (1974) suggests that athlete perceptions of sport and education are linked with the social environment, and that the problems within the game emanate from the social domain of the hockey milieu. Therefore, "Any consideration of an individual's involvement in minor hockey must examine the social structure of sport, since this determines how, and with whom, an individual interacts" (McPherson, 1974, p. 7). Some major problems in minor hockey relate to excessive competition and aggressiveness, player-official interactions, parent-son relationships, and coach-athlete relationships. Examples include coaches berating players, parents being over-aggressive as spectators, and players and spectators abusing officials. These incidents are social in nature. Social interaction within the hockey environment is a major

problem facing minor hockey executives, coaches, officials, players and parents.

McPherson concludes that minor hockey has attained the status of a social problem.

Since McPherson's study (1974), nothing appears to have changed. In fact, hockey has escalated as a social problem (Houston, 2000). The linking of hockey with education and the adoption of a school-sponsored sport value system may prove to be a critical step in solving this social problem.

The process of becoming a professional hockey player in Canada affects a hockey player's attitudinal development both positively and negatively (Desjardins, 1991). Participating in midget AAA hockey is part of the process of building a career in hockey. Midget AAA hockey serves as a development league for the Western Hockey League (WHL), which in turn feeds the National Hockey League (see Appendix D: Hockey Players' Critical Decision Path). Unfortunately, 85% of junior hockey players who make the WHL fall short of realizing their lifelong dream of becoming a professional hockey player (Desjardins, 1991). The question then arises, are elite hockey players (elite meaning players competing at the midget AAA, major junior, jr. A tier 2 or professional) prepared for life after hockey? Does competing in non-school sponsored hockey contribute positively to shaping their perceptions of sport, education and life after hockey?

Discussing the milieu of hockey in Alberta, Bruni (2000) suggests the following change of focus:

We must emphasize the enjoyment of the moment, while at the same time minimize the significance of the moment. It is important to focus on balance. Balance is physically, socially, personally and emotionally healthy (p. 13).

For Bruni, the predominant objective of participation in hockey should be the mental, physical and social development of people to prepare them for making valuable contributions as members of society. Otherwise, hockey participants will continue to experience the consequences of the current minor hockey culture: violence, unnecessary aggression, lowering of self-esteem, inequality, unfair tactics, and abuse and harassment (Bruni, 2000; McPherson, 1974).

There is little research pertaining directly to the relationship of perceptions of sport and education among elite hockey players and non school-sponsored athletes. Additionally, the literature relating to the effects of sport participation on academic and career aspirations is inconsistent. According to Spence (1996), various studies suggest that, for males, sport participation impedes career and academic plans. However, other studies (Donnelly, 2000; Marsh, 1992; NFSHA, 1998; Spreitzer & Pugh, 1973; Zaugg, 1998) have indicated that participation enhances academic and career plans. However, in his study of former junior hockey players, Desjardins (1991) raises concerns that are generally supported by the literature in this review. First, a significant number of coaches were not concerned about the players' overall development, and players had unrealistic expectations in relation to success in the NHL draft. Second, hockey players' self-esteem was linked closely to their on-ice performance, and players leaving the game of hockey experienced low self-esteem, ultimately, players often lost their own identity to the teams' identity. Players often gave up outside career interests in the pursuit of hockey, leading them to devote their entire development, twelve months of the year, to hockey. Furthermore, Desjardins found that players were missing an alarming one-third of their school classes and were not graduating with sufficiently high marks to enrol directly in college or university.

Generally, there is an understanding among the minor hockey associations throughout Alberta that the fundamental focus in hockey is really about developing good people (mentally, physically, socially, etc.) and not just good hockey players.

Unfortunately the fundamental focus tends to be overlooked for the sake of winning hockey games by the many coaches, players, parents, minor hockey executive board members etc. involved in midget AAA hockey. A focus on winning more often than not leads to the major problems mentioned by Desjardins (1991) and McPherson (1974).

Methodology

This study was concerned only with the participants' responses. The independent variable utilized was the athlete's sport preference (hockey or basketball). The dependent variable was the athlete's responses to the survey. Considering the parameters of the research population, assumptions of normality and homogeneity of variance for the respective population could not be made; therefore this study required the use of nonparametric testing (Hinkle, Wiersma & Jurs, 1998).

Basketball was chosen as the varying sport to hockey because of its similarities: popularity, league schedule, level of competitiveness, opportunities for college and university athletic scholarships, and availability of professional sports leagues. Both of these team sports share similarities that may or may not contribute to the student athlete's motivation to succeed in successfully combining academics with athletics.

Research Population

This study concentrated on male student athletes in grades 10, 11 and 12. Some played varsity 4A basketball in the Alberta Schools Athletic Association; others played in the Alberta Major Midget Hockey League. The teams that participated in this study were not randomly selected; rather, the researcher based on geographic location and population selected them. The survey was administered to a sample population of 158; four hockey teams comprised a total sample of 76, while eight basketball teams comprised a total sample of 82. The athletes playing midget AAA hockey represented approximately 30% of the total number of players in the league, while the varsity 4A basketball players represented 14% of the total population (www.amhl.ab.ca & www.asaa.ab.ca). All high schools and teams selected to participate in this study were located in either urban or

rural Alberta centers where the population did not exceed 70,000 inhabitants. There was a fairly even balance among grade levels between the two independent sample populations. The participants were numbered to secure their anonymity, and participating teams and schools were coded accordingly to guarantee confidentiality.

Instrumentation

This study utilized a self-developed survey instrument entitled Sport and education Survey (Appendix A) to gather information concerning student athlete perceptions of sport and education. The survey was developed through the use of a Thesis Blueprint (Appendix F) that consisted of thirteen statements that were grouped according to their relevance to each hypothesis. Responses to an additional five statements were gathered solely for the purpose of describing the subjects. Statements were developed from the ideas, theories and hypotheses identified through the literature review, and from over 20 years of personal observations of student athlete environments, both school-sponsored and non school-sponsored. The statements utilized were intended to target the student-athletes perceptions of education and sport.

The responses to these statements provided the basis for the statistical analysis and testing of the null hypotheses. The raw data compiled from the survey were organized with tables and bar graphs to represent the responses and the relationship between basketball players (school-sponsored athletes) and hockey players (non school-sponsored athletes). The survey invited participants to indicate the strength of their agreement with the statements, using (a) strongly disagree, (b) disagree, (c) neutral, (d) agree, and (e) strongly agree. For some statements only (a) agree and (b) disagree were used.

This type of survey research has several advantages over other types of research methods. It allows for greater dispersion, producing a larger sample size that covers a large geographical area. Dissemination of the survey and the collection of the raw data are efficient and cost effective. Additionally, tabulating the results using a Likert Scale requires less time and administrative support.

Gaining Access and Gathering Data

When the University of Lethbridge's Human Subjects Research Committee had approved the study, letters (see Appendix B) were sent to school superintendents requesting permission for the study to be conducted in their schools. Subsequently, permission was requested and received from school principals and coaches to carry out this research.

In order to alleviate disruption of practice schedules for participating basketball and hockey teams, arrangements were made with the coaches to administer the survey instrument during a post-practice or pre-practice team meeting. Student athletes were asked to complete a consent form (see Appendix C) prior to taking part in the study; signing the consent form provided confirmation that they would participate of their own free will. The surveys were collected immediately upon completion; all research participants were surveyed by April 2001. Then the process of analyzing and interpreting the data took place. With the researcher administering the survey instrument and with full cooperation from schools, coaches and athletes, the response rate was 100%.

Analysis of Data

Through the use of SPSS, relevant tables were constructed and presented to show the variables differences. Testing the hypotheses required the use of the Pearson Chi-square test in cross tabulations. The chi-square test essentially tells us whether the results

of a cross tabulation are statistically significant. The chi-square value does not tell us the nature of the differences. This test measured the extent to which the observed frequencies within the contingency table deviated from those frequencies that would be expected if the null hypotheses were true. The 0.05 probability level of significance was used to investigate the null hypotheses. Chi-square calculation, the test of significance that is most commonly used with nominal data, was employed to determine whether the differences are “real” or whether they have occurred by chance. In calculating Pearson Chi-square, the researcher makes a determination of difference between the observed frequencies that occur in the cross tabulation and the frequencies that one would expect assuming no relationship between the variables. If the observed frequencies are sufficiently different from the expected frequencies, then one could conclude that the differences would not have occurred by chance and that there is a real relationship between the variables. The formula used for calculating the Pearson Chi-square test is:

$$X^2 = \sum(O - E)^2 / E$$

O refers to the observed frequency and E the expected frequency. The expected frequencies are calculated by multiplying the row total by the column total for any given cell, then dividing by the total sample N. To determine whether Chi-square is significant, the degrees of freedom must be calculated: Degrees of Freedom = (R - 1) x (C - 1) where R = number of rows in the table and C = number of columns (Chadwick, Bahr & Albrecht, 1984).

Reliability and Validity

An instrument is said to be valid when it measures what it was designed to measure. Research texts generally discuss validity in terms of the following categories: 1) content and face validity, 2) criterion validity, and 3) construct validity (Royse, 1991).

In content validity, evidence is obtained by looking for agreement in judgments by judges or experts in the field. The thesis committee for this study (all holders of doctoral degrees) believed that the survey would serve its purpose.

Piloting the survey instrument involved administering it to one basketball team of twelve players and one hockey team of nineteen players. The athletes who participated in the survey pilot were of similar grade/playing levels to those who participated in the study. After the athletes finished completing the survey, comments were solicited from each team separately through a general discussion about what they felt the survey was trying to find. The pilot participants believed the survey was trying to find out about their perceptions of sport and education; their plans for the future in terms of sport and education, and specifics about themselves, such as grade, sport preference, how hard they are working at sport and school, how much time is involved with their sport, and how much time they study outside of the classroom. The team and the researcher then went through each statement one at a time, to see if further clarification was required. The pilot group expressed no concerns regarding the clarity of the survey statements. Through probing and inquiry I received valuable feedback that provided the necessary assurance that the survey had content validity.

In short, criterion validity is about prediction rather than explanation. Prediction is concerned with non-causal or mathematical dependence, whereas explanation pertains to causal or logical dependence (Trochim, 1999). For example, one can predict that there will be more hockey players than basketball players trying to become professional athletes, thus satisfying the criterion validity as a predictor. However, one cannot explain why there is a greater number based on the data alone. Because of this limitation of criterion validity, the researcher has to conduct construct validation.

Construct validity refers to the degree to which inferences can legitimately be made from the operationalizations in a study to the theoretical constructs on which those operationalizations were based (Trochim, 1999). I developed a instrument (Appendix F) that provided the framework for constructing the survey. Each hypothesis and its group of survey statements originated from the studies, ideas and theories discussed in the literature review. Statistical analysis involved attempting to decide whether there is a significant difference in athlete perceptions of sport and education between Alberta 4A varsity basketball players and midget AAA hockey players, and more specifically the examination of three hypotheses:

- H1 There is a significant difference in perceptions of education between 4A varsity basketball players and midget AAA hockey players in Alberta.
- H2 There is a significant difference in perceptions of sport between 4A varsity basketball players and midget AAA hockey players in Alberta.
- H3 There is a significant difference in perceptions of post-secondary education between 4A varsity basketball players and midget AAA hockey players in Alberta.

The dependent variable (athlete responses) assists or is determining the athletes' perceptions about their attitudes and intentions toward sport and education. The independent variable (sport preference = hockey or basketball) provide the two groups for comparison, and through understanding the culture of these two groups I am able to make inferences about what the data is suggesting. Cross-tabs were used for the purpose of showing differences among the results and further to support construct validity. Construct validity is supported in this study, since legitimate inferences can be made from the operationalizations of the Thesis Blueprint to its theoretical constructs.

Potential biases in this type of research study cannot be eliminated totally (Royse, 1991). The following situations are examples of potential sources of bias:

- an athlete who does not play special team situations in his freshman year (for example, one who does not play in power play, penalty kill or critical situations but played in all key situations in his prior year) and brings outside prejudices
- an athlete who received a poor grade in a class that the coach was instructing
- an athlete who was benched during the game before the survey was administered
- an athlete with a sibling who had problems at his or her school or residence

These are all real situations that may affect the responses to the survey.

The results and findings of the study were analyzed with the Statistical Package for the Social Sciences (SPSS 10.0) software. The analysis provided an estimate of the internal consistency of the scale being used and indicated items that did not correlate well with the rest. Dropping such items is said to improve the scale's reliability coefficient (Royse, 1991). No items were dropped in this study.

Results and Findings

This section provides detailed analysis of the data obtained from the Sport and education Survey. Each hypothesis is presented as a subsection. The findings are also presented relating to the general statements that were used for categorization, description and discussion purposes. This section concludes with a summary of the Pearson Chi Square Tests in Cross Tabs.

Athlete Perceptions of Education

H1 There is a significant difference in perceptions of education between 4A varsity basketball players and midget AAA hockey players in Alberta.

This hypothesis relates to ESS survey statements 3, 4, 5, and 6. Based on the Pearson Chi Square Test, three items (3, 4 and 6) revealed no significant difference in perception toward secondary education between 4A varsity basketball players and midget AAA hockey players in Alberta. However, the data relating to statement 5 revealed a significant difference of $\chi^2 = 9.205$ and $P = .027$. Considering the data analysis, there is enough strength to reject the first hypothesis (H1).

Statement 3 of the ESS survey -- "I give it my best effort in school" -- identifies the athletes' perceived effort in school. The Pearson Chi Square Test ($\chi^2 = 5.863$ and $p = .210$) shows no significant difference between hockey players and basketball players in self-perceived effort in school. Table 1 and Figure 1 represent the findings regarding perceived effort for the school-sponsored athletes (basketball) and non school-sponsored athletes (hockey).

Statement 4 --“I work as hard in school as I do in sport” -- identifies the athletes’ self-perceived work ethic in school compared to their work ethic in sport. Based on the Pearson Chi Square Test ($\chi^2 = 6.052$ and $p = .195$), the hockey players and basketball players showed no significant difference (Table 2 and Figure 2) in their self-perceived work ethic in school compared to their work ethic in sport.

Statement 5 of the ESS survey, “I study approximately _____ hours a week,” identifies the athletes’ self-reported hours per week spent studying. Based on the Pearson Chi Square Test ($\chi^2 = 9.205$ and $p = .027$), the hockey players differed from the basketball players in the number of reported study hours per week. Table 3 and Figure 3 represent the data for the school-sponsored athletes (basketball) and the non school-sponsored athletes (hockey). According to the data, hockey players are spending more time studying outside the classroom. Based on the literature review (Ajzen, 2002; Alberta Junior Hockey League, 2001; Canadian Hockey Association, 1999; Desjardins, 1991; Donnelly, 2000; Marsh, 1992; NFSHA, 1998; Spreitzer & Pugh, 1973; Western Hockey League, 2001; Zaugg, 1998) and hockey’s developmental focus in Canada over the past ten years, possible explanations for these findings will be explored later in the discussion section.

Survey item 6 -- “I’m disappointed if I don’t get above average grades” -- identifies the student athletes’ level of concern over school performance. The Pearson Chi Square Test ($\chi^2 = 5.428$ and $p = .143$) data reveal that there was no significant difference in hockey players’ and basketball players’ concern for performing well in school. Table 4 and Figure 4 represent this finding for the school-sponsored athletes (basketball) and the non school-sponsored athletes (hockey).

Ultimately both athlete groups share similar perceptions of education. However, there is a significant difference in the number of hours that the hockey players are contributing to their studies. The data show that hockey players are spending more time studying than basketball players.

Table 1

Student Athletes' Perceived Effort in School

Q3. I give it my best effort in school.

Crosstab

		Q2			
			Hockey	Basketball	Total
Q3	Strongly Disagree	Count	1		1
		% within Q2	1.3%		.6%
	Disagree	Count	5	5	10
		% within Q2	6.6%	6.1%	6.3%
	Neutral	Count	18	29	47
		% within Q2	23.7%	35.4%	29.7%
	Agree	Count	34	38	72
		% within Q2	44.7%	46.3%	45.6%
	Strongly Agree	Count	18	10	28
		% within Q2	23.7%	12.2%	17.7%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

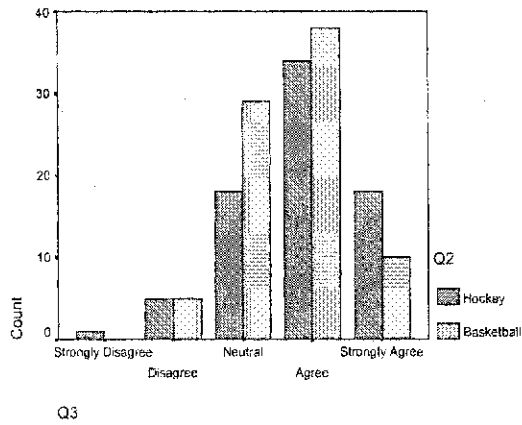


Figure 1. Student athletes' perceived effort in school.

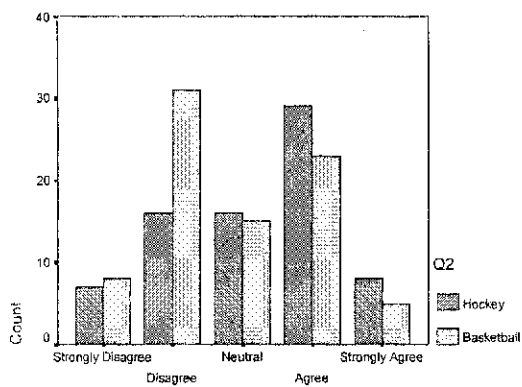
Table 2

Student Athletes' Work Ethic in School Compared to Work Ethic in Sport

Q4. I work as hard in school as I do in sport.

Crosstab

		Q2			
		Hockey	Basketball	Total	
Q4	Strongly Disagree	Count	7	8	15
		% within Q2	9.2%	9.8%	9.5%
	Disagree	Count	16	31	47
		% within Q2	21.1%	37.8%	29.7%
	Neutral	Count	16	15	31
		% within Q2	21.1%	18.3%	19.6%
	Agree	Count	29	23	52
		% within Q2	38.2%	28.0%	32.9%
	Strongly Agree	Count	8	5	13
		% within Q2	10.5%	6.1%	8.2%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%



Q4

Figure 2. Student athletes' work ethic in school compared to work ethic in sport.

Table 3

Hours Per Week of Study by Student Athletes (Self-Reported)

Q5. I study approximately _____ hours a week. (Do not include regular scheduled classes)

Crosstab

		Q2			
			Hockey	Basketball	Total
Q5	5-10 hours	Count	53	72	125
		% within Q2	69.7%	87.8%	79.1%
	10-20 hours	Count	16	9	25
		% within Q2	21.1%	11.0%	15.8%
20-30 hours	Count	6	1	7	
	% within Q2	7.9%	1.2%	4.4%	
30-40 hours	Count	1		1	
	% within Q2	1.3%		.6%	
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

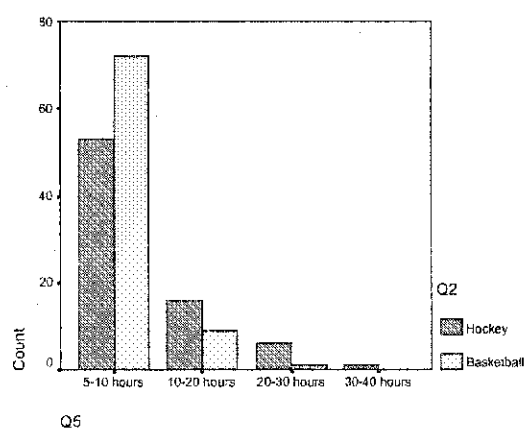


Figure 3. Hours per week of study by student athletes (self-reported).

Table 4

Student Athletes' Concern About Their School Performance

Q6. I'm disappointed if I don't get above-average grades.

Crosstab

		Q2			
			Hockey	Basketball	Total
Q6	Disagree	Count	4	6	10
		% within Q2	5.3%	7.3%	6.3%
	Neutral	Count	9	17	26
		% within Q2	11.8%	20.7%	16.5%
	Agree	Count	27	34	61
		% within Q2	35.5%	41.5%	38.6%
	Strongly Agree	Count	36	25	61
		% within Q2	47.4%	30.5%	38.6%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

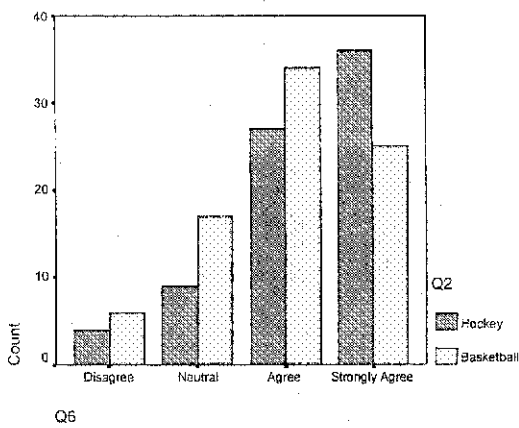


Figure 4. Student athletes' concern about their school performance.

Athlete Perceptions of Sport

H2 There is a significant difference in perceptions of sport between 4A varsity basketball players and midget AAA hockey players in Alberta.

Hypothesis 2 relates to ESS survey statements 7, 8, 9, 10 and 11. Based on the Pearson Chi Square Test, one item (statement 11) revealed no significant difference in perceptions of sport between 4A varsity basketball players and midget AAA hockey players in Alberta. However the data of items 7, 8, 9 and 10 did reveal significant differences. The analysis reported enough evidence to support the hypothesis that there is a significant difference in athletes' perceptions of sport between 4A varsity basketball players and midget AAA hockey players in Alberta.

Item 7 of the ESS survey, "I give it my best effort in sport," identifies self-perceived effort given to the sport. Based on the Pearson Chi Square Test ($\chi^2 = 22.262$ and $p = .000$), the hockey players and the basketball players exhibited a significant difference in their work ethic in sport (see Table 5 and Figure 5).

Statement 8, "I work as hard in sport as I do in school," identifies the student athletes' perceptions of their work ethic in sport compared to their work ethic in school. Based on the Pearson Chi Square Test ($\chi^2 = 17.593$ and $p = .001$), both the hockey players and the basketball players differed significantly in their perceptions about their work ethic in sport versus school. Table 6 and Figure 6 show that there is a significant difference between the school-sponsored athletes (basketball) and the non school-sponsored athletes (hockey): the hockey players felt they worked harder at their sport than at school, while the basketball players felt that they worked harder at school than at their sport.

Statement 9 of the ESS survey, "I'm trying to make it as a career athlete (professional, semi-pro, Europe)," identifies student athletes' desire to become professional athletes. Based on the Pearson Chi Square Test ($\chi^2 = 26.731$ and $p = .000$), the hockey and basketball players showed a significant difference in their aspirations to a career in sports. Table 7 and Figure 7 represent a significant difference between the school-sponsored athletes (basketball) and the non school-sponsored athletes (hockey), showing that hockey players at this level express more interest than basketball players in becoming professional athletes.

Statement 10 is this: "Including the time that I spend before and after games, practices and dryland training/team meetings (including travel), I spend approximately _____ hours a week in my sport." This item attempts to establish how much time these athletes are investing in their sport. The Pearson Chi Square Test ($\chi^2 = 24.708$ and $p = .000$) revealed that the hockey and basketball players differed significantly in the amount of time spent on their sport. As Table 8 and Figure 8 show, the hockey players reported spending more time on their sport than did the basketball players. Concerning this question, it is unknown as to whether the athletes had choice in the matter of time spent on sport or if the time requirement is imposed by the coach. However there is an underlying assumption that playing at a high level of sport such as midget AAA hockey and 4A basketball requires a high level of commitment and time - this assumption was reflected in the data.

Statement 11, "I am more concerned with how well I do in sport than I do with school," identifies whether student athletes are more concerned with sport than they are with education. The Pearson Chi Square Test results ($\chi^2 = 1.254$ and $p = .869$) shown in

Table 9 and Figure 9 indicate no significant difference between the school-sponsored athletes (basketball) and the non-school sponsored athletes (hockey).

Table 5

Student Athletes Self-Perceived Effort in Sport

Q7. I give it my best effort in sport.

Crosstab

		Q2			
			Hockey	Basketball	Total
Q7	Disagree	Count	3		3
		% within Q2	3.9%		1.9%
	Neutral	Count	1	1	2
		% within Q2	1.3%	1.2%	1.3%
	Agree	Count	7	33	40
		% within Q2	9.2%	40.2%	25.3%
	Strongly Agree	Count	65	48	113
		% within Q2	85.5%	58.5%	71.5%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

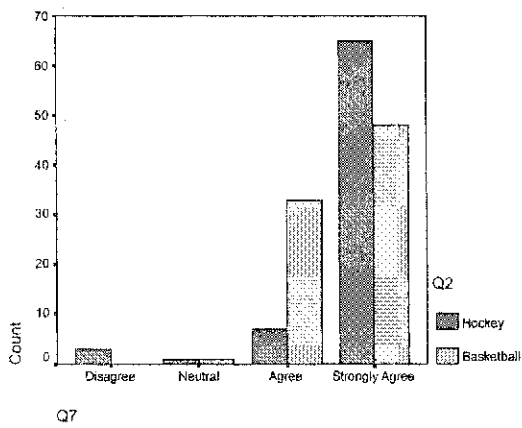


Figure 5. Student Athletes Self-Perceived Effort in Sport.

Table 6

Student Athletes' Work Ethic in Sport Compared to Work Ethic in School

Q8. I work as hard in sport as I do in school.

Crosstab

		Q2			
			Hockey	Basketball	Total
Q8	Strongly Disagree	Count	6	4	10
		% within Q2	7.9%	4.9%	6.3%
	Disagree	Count	12	31	43
		% within Q2	15.8%	37.8%	27.2%
	Neutral	Count	11	12	23
		% within Q2	14.5%	14.6%	14.6%
	Agree	Count	18	24	42
		% within Q2	23.7%	29.3%	26.6%
	Strongly Agree	Count	29	11	40
		% within Q2	38.2%	13.4%	25.3%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

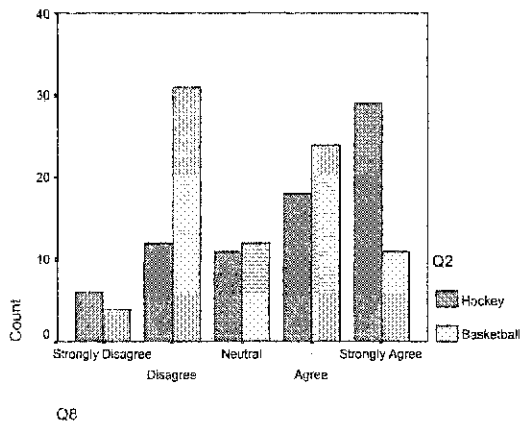


Figure 6. Student athletes' work ethic in sport compared to work ethic in school.

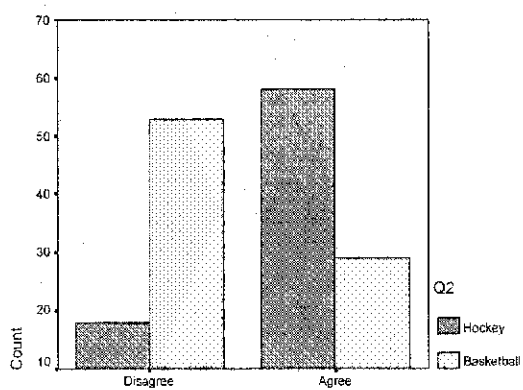
Table 7

Student Athletes' Attitudes Toward Trying to Become Professional Athletes

Q9. I am trying to make it as a career athlete (professional, semi-professional, Europe).

Crosstab

		Q2			
			Hockey	Basketball	Total
Q9	Disagree	Count	18	53	71
		% within Q2	23.7%	64.6%	44.9%
	Agree	Count	58	29	87
		% within Q2	76.3%	35.4%	55.1%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%



Q9

Figure 7. Student athletes' attitudes toward trying to become professional athletes.

Table 8

Hours Per Week Spent on Sport by Student Athletes

Q10. Including the time that I spend before and after games, practices and dry-land training/team meetings (including travel), I spend approximately _____ hours a week in my sport.

Crosstab

			Q2		
			Hockey	Basketball	Total
Q10	5-10 hours	Count	2	8	10
		% within Q2	2.6%	9.8%	6.3%
	10-20 hours	Count	11	26	37
		% within Q2	14.5%	31.7%	23.4%
	20-30 hours	Count	33	41	74
		% within Q2	43.4%	50.0%	46.8%
	30-40 hours	Count	19	4	23
		% within Q2	25.0%	4.9%	14.6%
	40-higher	Count	11	3	14
		% within Q2	14.5%	3.7%	8.9%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

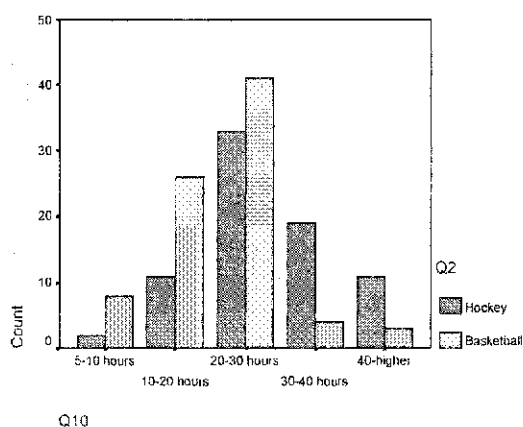


Figure 8. Hours per week spent on sport by student athletes.

Table 9

Student Athletes' Concern About Sport and Education

Q11. I am more concerned with how well I do in sport than with how well I do in school.

Crosstab

		Q2			
			Hockey	Basketball	Total
Q11	Strongly Disagree	Count	3	3	6
		% within Q2	3.9%	3.7%	3.8%
	Disagree	Count	17	23	40
		% within Q2	22.4%	28.0%	25.3%
	Neutral	Count	30	31	61
		% within Q2	39.5%	37.8%	38.6%
	Agree	Count	21	18	39
		% within Q2	27.6%	22.0%	24.7%
	Strongly Agree	Count	5	7	12
		% within Q2	6.6%	8.5%	7.6%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

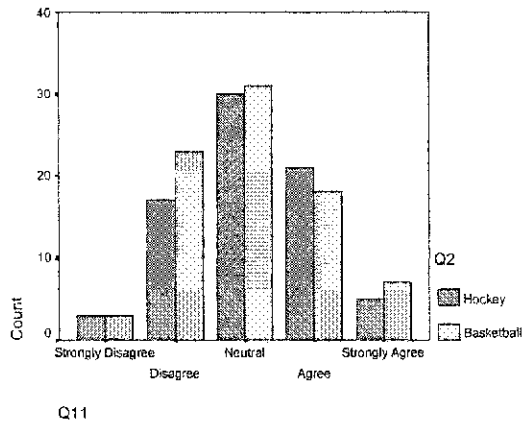


Figure 9. Student athletes' concern about sport and education.

Athlete Perceptions of Post-Secondary Education

H3 There is a significant difference in perceptions of post-secondary education between 4A varsity basketball players and midget AAA hockey players in Alberta.

This hypothesis relates to ESS survey statements 12, 13, 14 and 15. Based on the Pearson Chi Square Test, three items (13, 14 and 15) revealed no significant difference in athlete perceptions of post-secondary education between 4A varsity basketball players and midget AAA hockey players in Alberta. However, the data relating to statement 12 revealed a significant difference of $\chi^2 = 15.605$ and $P = .004$. When considering the data analysis reported, there is enough strength to reject the third hypothesis (H3).

Statement 12, "I plan to attend fulltime studies at a college/university the year following graduation with or without an athletic scholarship," revealed a significant difference ($\chi^2 = 15.605$ and $p = .004$) (see Table 10 and Chart 10). This difference might be attributed to Canada's sport delivery system in hockey, which will be further explored in the Discussion section. In Canada, the hockey delivery system generally involves the elite hockey player advancing to the junior hockey ranks prior to pursuing a college or university career. Hockey players who wish to play at the post-secondary level are required to spend a further one to three years in the junior ranks, prior to advancing to play at the college/university or higher levels. Hockey's sport delivery system, and the developmental path that most aspiring hockey student athletes are required to take before enrolling in college or university, may partly account for the significant difference in statement 12.

Statement 13, "I will not be attending college/university after high school," identifies student athletes' plans for post-secondary education. Based on the Pearson Chi

Square Test ($\chi^2 = 6.960$ and $p = .138$), the hockey players and the basketball players showed no significant difference in their plans for post-secondary education. These results are represented in Table 11 and Figure 11.

Statement 14, "I plan to attend fulltime studies at a college/university only if I get an athletic scholarship," is intended to identify student athletes whose focus is on winning an athletic scholarship to attend college/university. Based on the Pearson Chi Square Test ($\chi^2 = 3.243$ and $p = .518$), the hockey and basketball players showed no significant difference in their intentions to pursue post-secondary education. Table 12 and Figure 12 indicate no significant difference between the school-sponsored athletes (basketball) and the non school-sponsored athletes (hockey).

Statement 15 is this: "I'm only going to college/university if I don't secure a professional contract as a career athlete (professional, semi-pro, Europe)." This item identifies student athletes who plan to attend college/university only if they do not succeed as a career athlete. Based on the Pearson Chi Square Test ($\chi^2 = 5.441$ and $p = .245$), the hockey and basketball players showed no significant difference in their intentions to attend post-secondary studies after trying to secure a contract as a career athlete. Table 13 and Figure 13 show no significant difference between the school-sponsored athletes (basketball) and the non school-sponsored athletes (hockey).

Table 10

Student Athletes' Intentions to Attend Fulltime Post-Secondary Education One Year After Graduation

Q12. I plan to attend fulltime studies at a college/university the year following graduation with or without an athletic scholarship.

Crosstab

			Q2		
			Hockey	Basketball	Total
Q12	Strongly Disagree	Count	3	1	4
		% within Q2	3.9%	1.2%	2.5%
	Disagree	Count	11	1	12
		% within Q2	14.5%	1.2%	7.6%
	Neutral	Count	15	11	26
		% within Q2	19.7%	13.4%	16.5%
	Agree	Count	27	31	58
		% within Q2	35.5%	37.8%	36.7%
	Strongly Agree	Count	20	38	58
		% within Q2	26.3%	46.3%	36.7%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

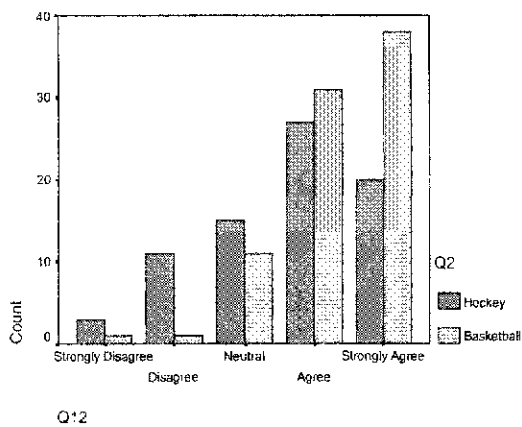


Figure 10. Student athletes' intentions to attend fulltime post-secondary education one year after graduation.

Table 11

Student Athletes' Intentions not to Attend College/University After High School

Q13. I will not be attending college/university after high school.

Crosstab

		Q2			
			Hockey	Basketball	Total
Q13	Strongly Disagree	Count	40	56	96
		% within Q2	52.6%	68.3%	60.8%
	Disagree	Count	21	14	35
		% within Q2	27.6%	17.1%	22.2%
	Neutral	Count	5	7	12
		% within Q2	6.6%	8.5%	7.6%
	Agree	Count	7	2	9
		% within Q2	9.2%	2.4%	5.7%
	Strongly Agree	Count	3	3	6
		% within Q2	3.9%	3.7%	3.8%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

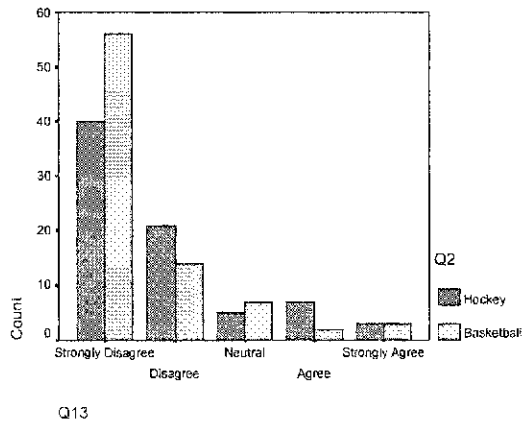


Figure 11. Student athletes' intentions not to attend college/university after high school.

Table 12

Student Athletes' Intentions to Attend College/University Only if They Receive an Athletic Scholarship

Q14. I plan to attend fulltime studies at a college/university only if I get an athletic scholarship.

Crosstab

			Q2		
			Hockey	Basketball	Total
Q14	Strongly Disagree	Count	24	28	52
		% within Q2	31.6%	34.1%	32.9%
	Disagree	Count	23	31	54
		% within Q2	30.3%	37.8%	34.2%
	Neutral	Count	15	10	25
		% within Q2	19.7%	12.2%	15.8%
	Agree	Count	11	8	19
		% within Q2	14.5%	9.8%	12.0%
	Strongly Agree	Count	3	5	8
		% within Q2	3.9%	6.1%	5.1%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

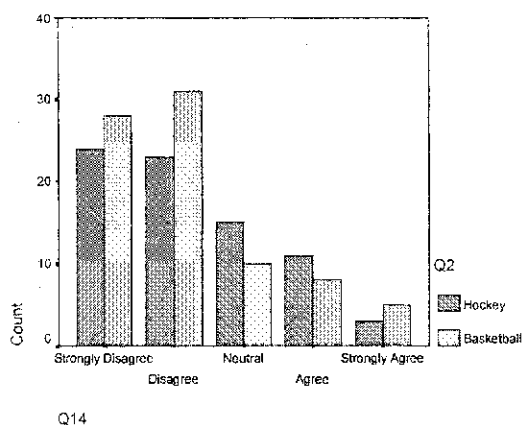


Figure 12. Student athletes' intentions to attend college/university only if they receive an athletic scholarship.

Table 13

Student Athletes who Plan to Attend College/University if They Do not Become
Professional Athletes

Q15. I'm only going to college/university if I don't secure a professional contract as a career athlete (professional, semi-pro, Europe).

Crosstab

		Q2			
			Hockey	Basketball	Total
Q15	Strongly Disagree	Count	27	39	66
		% within Q2	35.5%	47.6%	41.8%
	Disagree	Count	27	20	47
		% within Q2	35.5%	24.4%	29.7%
	Neutral	Count	14	13	27
		% within Q2	18.4%	15.9%	17.1%
	Agree	Count	6	4	10
		% within Q2	7.9%	4.9%	6.3%
	Strongly Agree	Count	2	6	8
		% within Q2	2.6%	7.3%	5.1%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

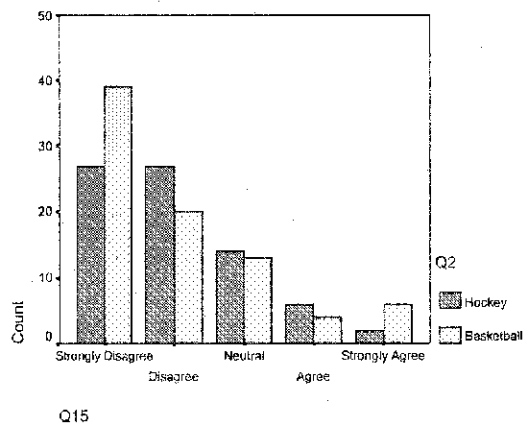


Figure 13. Student athletes who plan to attend college/university if they do not become professional athletes.

General Survey Statements

ESS survey statements 1 and 2 were used primarily for categorization and description of the research participants; statements 16, 17 and 18 were designed to contribute to the general discussion of the study.

Interestingly there was a fairly even balance among grade levels between the two independent sample populations. For this sample, Table 14 and Figure 14 indicate that in the 2000-01 academic year, very few grade 10 student athletes (5.7% of total sample population) competed at the midget AAA hockey (2.6%) and 4A basketball (8.5%) level.

Item 16 is this: "Most of the courses that I'm currently taking are at the 10, 20 or 30 level in Math, English, Biology, Chemistry, Physics and Social Studies." This item identifies whether the athlete's class schedule is comprised primarily of 10, 20, or 30 level courses. Based on the Pearson Chi Square Test ($\chi^2 = .652$ and $p = .419$), there is no significant difference between the two athlete groups in terms of class schedule (Table 15 and Figure 15).

Item 17, "Our team has a minimum academic standard (grade point average) that I must meet in order to be eligible to play," identifies the athlete's awareness of a team academic standard that must be met for eligibility to participate in their sport. The results, indicated in Table 16 and Figure 16, show a significant difference between school-sponsored athletes (basketball) and non school-sponsored athletes (hockey). Of hockey players, 82.9% disagreed that their team had a minimum academic standard, while 80.5% of basketball players agreed that their team had a minimum academic standard. However, 19.5% of basketball players felt that there was no minimum academic standard, and in hockey 17.1% agreed there was an academic standard. This finding supports the notion that school-sponsored programs link sport with education

through school policies requiring that student athletes maintain a minimum academic standard in order to be eligible to play.

Statement 18, "My grade average on my most recent report card was between _____," identifies athletes' self-reported grade average on their most recent report card. The Pearson Chi Square Test ($\chi^2 = .721$ and $p = .944$) results revealed no significant difference in grade average between hockey players and basketball players (see Table 17 and Figure 17). This is interesting, considering that school-sponsored sports are perceived to be linked to educational achievement, while hockey (a non school-sponsored sport) is considered separate from the realm of education and potentially a hindrance to a student's level of academic achievement. The findings relating to statement 18 contradict the Thom study (1979), which found that participation in non-school sponsored hockey is accompanied by declining secondary school performance. This contradiction will be addressed later in the Discussion section.

The number of athletes in each sport is similar at each grade level. The findings also indicate that most of the courses taken by both basketball and hockey players are at the 10, 20 and 30 level in Math, English, Biology, Chemistry, Physics and Social Studies, and that there are no significant differences in their self-reported grade averages. Another significant difference shown is that basketball players are required to maintain a minimum academic standard while participating in school sport.

Table 14

Self-Reported Grade Levels of Student Athletes

Q1. I am in grade

Crosstab

		Q2			
		Hockey	Basketball	Total	
Q1	Grade 10	Count	2	7	9
		% within Q2	2.6%	8.5%	5.7%
	Grade 11	Count	30	30	60
		% within Q2	39.5%	36.6%	38.0%
	Grade 12	Count	44	45	89
		% within Q2	57.9%	54.9%	56.3%
Total	Count	76	82	158	
	% within Q2	100.0%	100.0%	100.0%	

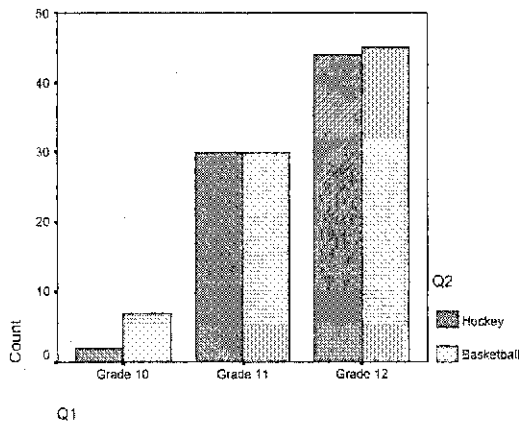


Figure 14. Self-reported grade levels of student athletes.

Table 15

Student Athletes Taking 10, 20 and 30 Level High School Courses

Q16. Most of the courses that I'm currently taking are at the 10, 20 or 30 level in Math, English, Biology, Chemistry, Physics and Social Studies.

Crosstab

		Q2			
			Hockey	Basketball	Total
Q16	Disagree	Count	4	7	11
		% within Q2	5.3%	8.5%	7.0%
	Agree	Count	72	75	147
		% within Q2	94.7%	91.5%	93.0%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

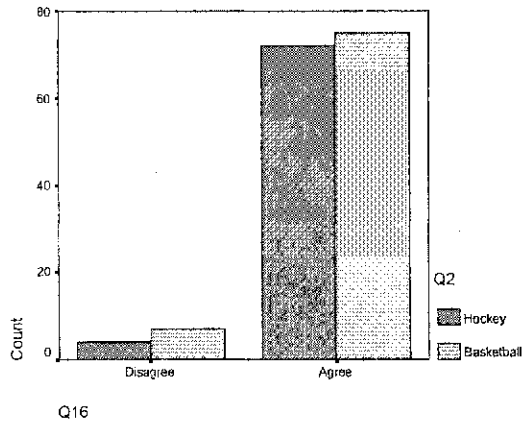


Figure 15. Student athletes taking 10, 20 and 30 level high school courses.

Table 16

Student Athletes who Felt Their Team Had Academic Standards

Q17. Our team has a minimum academic standard (Grade Point Average) that I must meet in order to be eligible to play.

Crosstab

		Q2			
			Hockey	Basketball	Total
Q17	Disagree	Count	63	16	79
		% within Q2	82.9%	19.5%	50.0%
	Agree	Count	13	66	79
		% within Q2	17.1%	80.5%	50.0%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

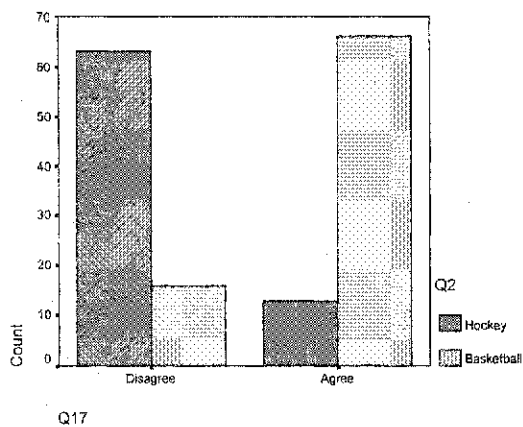


Figure 16. Student athletes who felt their team had academic standards.

Table 17

Student Athletes' Grade Average on Most Recent Report Card (Self-Reported)

Q18. My grade average on my most recent report card was between _____.

Crosstab

		Q2			
			Hockey	Basketball	Total
Q18	90%-100%	Count	2	4	6
		% within Q2	2.6%	4.9%	3.8%
	80%-89%	Count	21	22	43
		% within Q2	27.6%	26.8%	27.2%
	70%-79%	Count	32	35	67
		% within Q2	42.1%	42.7%	42.4%
	60%-69%	Count	16	15	31
		% within Q2	21.1%	18.3%	19.6%
	Below 60%	Count	5	6	11
		% within Q2	6.6%	7.3%	7.0%
Total		Count	76	82	158
		% within Q2	100.0%	100.0%	100.0%

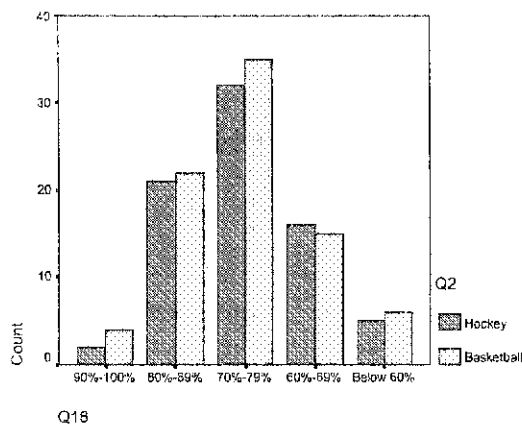


Figure 17. Student athletes' grade average on most recent report card (self-reported).

The Results Summary of Pearson Chi Square Tests in Cross Tabs (Table 18) shows the χ^2 and P values for each of the statements and corresponding hypotheses, as well as the general statements that were used in the survey. The summary indicates rejection of H1, that there is a significant difference in perceptions of education between 4A varsity basketball players and midget AAA hockey players in Alberta. Also rejected is H3, that there is a significant difference in perceptions of post-secondary education between 4A varsity basketball players and midget AAA hockey players in Alberta. However, it is apparent that the data does support H2, that there is a significant difference in perceptions of sport between 4A varsity basketball players and midget AAA hockey players in Alberta.

Table 18

Results Summary of Pearson Chi Square Tests in Cross Tabs

	HYPOTHESES	STATEMENT	χ^2	P	
H1	There is a significant difference in perceptions of education between 4A varsity basketball players and midget AAA hockey players in Alberta.	Q3, Q2	5.863	.210	
		Q4, Q2	6.052	.195	
		HYPOTHESIS IS REJECTED	Q5, Q2	9.205	.027
		Q6, Q2	5.428	.143	
H2	There is a significant difference in perceptions of sport between 4A varsity basketball players and midget AAA hockey players in Alberta.	Q7, Q2	22.262	.000	
		Q8, Q2	17.593	.001	
		HYPOTHESIS IS SUPPORTED	Q9, Q2	26.731	.000
		Q10, Q2	24.708	.000	
		Q11, Q2	1.254	.869	
H3	There is a significant difference in perceptions of post-secondary education between 4A varsity basketball players and midget AAA hockey players in Alberta.	Q12, Q2	15.605	.004	
		Q13, Q2	6.960	.138	
		HYPOTHESIS IS REJECTED	Q14, Q2	3.243	.518
		Q15, Q2	5.441	.245	
	General statements used for categorization, description and discussion.	Q 1, Q2	2.565	.277	
		Q16, Q2	.652	.419	
		Q17, Q2	63.383	.000	
		Q18, Q2	.721	.949	

Discussion

The claim that athletes in school sponsored athletics show higher academic achievement, aspire to post-secondary success, have higher grade point averages and lower dropout rates, and that participation in school sponsored sports leads to enhanced affiliation and commitment to school is supported by numerous studies (Donnelly, 2000; Marsh, 1992; NFSHA, 1998; Spreitzer & Pugh, 1973; Zaugg, 1998). Similarly Thom (1978) set out to examine the relationship between youths' participation in hockey and their school performance, and found that participation in non school-sponsored hockey is accompanied by declining secondary-school performance, and that participation in hockey programs organized by the secondary school is associated with improved school performance.

The current study examined the perceptions of sport and education of student athletes participating in basketball (school-sponsored sport) and hockey (non school-sponsored sport). Hypotheses were formulated and tested based on basketball players' and hockey players' perceptions regarding sport and education. The results revealed that there seems to be no significant difference in perceptions of secondary education, and there seems to be no significant difference in perceptions of post-secondary education. However, there was a significant difference in athletes perceptions of sport; generally, there were four significant differences concluded from the results of hypothesis two:

1. Hockey players perceive themselves to be giving their best effort in sport.
2. Hockey players perceive themselves to be working hard in sport.
3. Hockey players at this level are trying to become professional athletes.
4. Hockey players spend an extensive amount of time at their sport.

LeClair (1992) suggests that where one grows up greatly influences how one sees the world and how one feels about it. Canadian boys playing ice hockey, dream about playing in the National Hockey League, and about playing alongside their hockey hero (Dryden and MacGregor, 1989). If one was born in Italy or Brazil, the images in their mind would presumably have been of scoring goals in a professional soccer league (LeClair, 1992). This may very well explain why 76.3% of the midget AAA hockey players in the study were attempting to become professional athletes. However, the reason for this significant difference could also be based on the fact that hockey is viewed as a potential route toward financial success for a Canadian student athlete.

Although hockey should be played for the love of the game and the thrill of competition, many parents long to have a future NHL star in their family and this can put pressure on their child (LeClair, 1992). Dryden and MacGregor (1989, p. 64) say, "We live in a time of what might be called Power Parenting. No longer can the relationship between parent and child be simply benign and supportive; it must be involved, committed, directed. It is what 'Making It' demands." Dryden and MacGregor (1989) suggest that parents want what's best for their child, and the best in the parents mind is making it to the NHL. The pressures of playing hockey at this level are real, as are the rewards, because there are hopes of the "big time" or the possibility of a university scholarship in the United States (LeClair, 1992). However remote a reality, the ultimate goal of playing professional hockey is what most midget AAA hockey players are striving toward.

According to the data in this study, hockey players in non school-sponsored programs are spending more time studying outside of the classroom and their academic performance is better than Thom (1979) found in his study. This phenomenon of non-

school sponsored hockey players attending to their studies cannot be related to school being linked to hockey as the results indicate that the Alberta schools in this study differ in their support for hockey and basketball athletics. While a small minority of hockey players (17.1%) perceived that their team had a minimum academic standard, the vast majority (80.5%) of basketball players agreed that their team had a minimum academic standard. Interestingly the hockey players who had no minimum academic standard still reported similar grade averages to basketball players who had minimum academic standards (see Table 17). Although Spence (1996) and Thom (1978) found that playing high levels of hockey (non school-sponsored sport) impedes learning and academic achievement, and several authors (Broom, 1980; Donnelly, 2000; Picou, Steven and Evans, 1974; and Thom, 1978) affirm the general notion that school-sponsored sport contributes to achievement, clearly neither of these claims parallel the results of this study from a secondary-education perspective (Table 17). Reasons for the hockey player's improved educational attitudes, performance and motivation may be due to the possibility of receiving an athletic scholarship, to parents placing their own academic expectations for their sons to uphold, or a greater awareness of the importance of education in Canadian society.

Harper (1986) finds it almost impossible to support minimum academic standards for student athletes because academic programs are difficult to standardize. Ruffin (1986) strongly suggests that every school should have academic support systems in place for all students, regardless of whether they are athletes, for schools owe each student every opportunity to succeed academically. Interestingly, those school-sponsored athletes who indicated their team did not have an academic standard came from two schools that employed off-campus coaches who were not certified teachers. Whereas the

non school-sponsored student athletes who indicated their team had a minimum academic standard were being coached by a certified teacher who was at the time employed with an Alberta high school. This raises the question of how much of an influence a coach has on his athletes' commitment to combining athletics with academics while attending secondary education, and furthermore how much of an influence a coach has on his athletes' post-secondary intentions.

Unfortunately, a major limitation to this study was not knowing who or what was influencing the student athletes' attitudes and performance in athletics and academics. Haynes (1990, p. 13) states, "If we are to develop strategies to refocus student athletes to appreciate the value of education, several issues must be addressed. What for example causes a student to learn? And what can we do to stimulate that process to make education more appealing in the eyes of the student athlete?" Sports schools initiatives such as the Canadian Hockey Skills Academies that are being recommended by the Canadian Hockey Association may be the necessary stimulant for the hockey player to broaden his perspective on the realities of becoming a professional.

In a recent report (King & Kinding, 2001) on two Canadian Hockey Association's sports schools being piloted in Alberta, results indicated that the students' average improvement was 5-10% on their core course work such as math, English, science and social studies. Results also revealed a tremendous improvement in the students' hockey skills, and overall positive approach to learning was discovered among the hockey players enrolled in the sports schools that were piloted.

There are just 47% of the hockey players in this study intending to enrol in college/university regardless of whether they receive an athletic scholarship. A learning environment such as the one mentioned above may inspire the 53% of hockey players

(see Table 12), who are either unsure or do not plan on attending college/university unless they receive an athletic scholarship, to take their learning to another level beyond secondary education.

Another limitation to this study is that the data is a snapshot of the athletes' present perceptions and how they view themselves in the world they live. The data identifies that hockey players are generally performing well in school, and are planning to attend college or university if they are unsuccessful in becoming professional athletes. However, the data does not indicate whether they will be prepared for life after hockey. The data only tells us about student athletes in relation to sport and education at a particular point in time in the athlete's life. What happens to the hockey players when they move to junior hockey to further develop as athletes as part of their preparation for college/university and/or professional hockey? Desjardins' (1991) research on junior hockey players suggests that student athletes' feelings of self-worth are diminished when they are associated with junior hockey, and they are generally not prepared to handle the rigors of post-secondary education, or the rest of their life after hockey. This is a great concern considering that at least 85% of players in junior hockey are forced to retire when they are 19 or 20 (Desjardins, 1991). This concern is also echoed by Scherer (1990, p. 2), "Each year thousands of high school athletes dream of being the next generation's superstars. Only 1 in 10,000 high school student athletes who want a career in professional sports ever realize that aspiration, and those who make it average careers of four years." The student athletes that lose sight of the value of education tend to find themselves and their futures held hostage by the near-impossible dream of becoming a professional athlete (Scherer, 1990).

The Western Hockey League and the Alberta Junior Hockey League are attempting to address these concerns by placing an emphasis on the athlete's life after hockey. This is seen in the league's mission statement; "The Alberta Junior Hockey League is dedicated to furnishing its athletes with the best available opportunities for future development and growth. Our League supports its players through assistance in their academic, athletic and personal lives throughout their pursuit of individual goals." (www.ajhl.ab.ca). Kenny (2001), in a Lethbridge Herald newspaper story titled "Canes Place a Priority on Education," makes reference to the Lethbridge Hurricanes (of the Western Hockey League) taking secondary education and post-secondary education very seriously. Players of the Hurricanes who are attending high school have twice-weekly study halls and are supplied with tutors for any additional help with their studies. The emphasis placed on education is also echoed on the Western Hockey League's official website (www.whl.ca/education.shtml), where Jim Donlevy, WHL education consultant, states that, "Playing in the Western Hockey League will provide you with opportunities not afforded to many young athletes. And contrary to popular belief, playing in WHL will not result in the sacrifice of your educational objectives or development." From a League standpoint these measures will provide WHL players with an opportunity for success in the classroom; however, the onus still remains with the athlete to apply himself. The WHL website also highlights an educational package that guarantees financial assistance to WHL players, not only while they are playing, but after they graduate from the League. The current scholarship covers tuition and books at Canadian colleges and universities and is awarded to players on the basis of the number of years played in the League. Additionally, the WHL is assisting the athletes with their preparations for post-hockey careers by having an education consultant ask the athlete to think about, 1) the

kind of career they plan to pursue after high school, 2) what they want to be doing 10 years from now, 3) what happens when they have to face life after hockey, and 4) even if they play pro hockey, what should they be doing to improve their life skills? Through this type of career planning and counselling the Western Hockey League is working to address the concerns, issues and perceptions that challenge the league and aspiring hockey players.

This study was based on the assumption that an environment that helps students to combine academic and athletic achievement can have a powerful influence on the students' perceptions of sport and education. It is important to note that this study does not verify the learning environment (ie. school-sponsored sport or non school-sponsored sport) as being the primary influence on student athletes perceptions of sport and education. Rather, this study verifies significant differences concerning student athlete perceptions of sport and education, more specifically the athletes' perceptions of sport and secondary education and intentions toward post-secondary education. These two athlete groups represent two different sporting environments in Alberta (midget AAA hockey players play non school-sponsored sport, and varsity 4A basketball players play school-sponsored sport).

Testing the null hypotheses required the use of the Chi-square test in cross tabulations. This test measured the extent to which the observed frequencies within the contingency table deviated from those frequencies that would be expected if the null hypotheses were true, using the 0.05 probability level of significance. Although there were some contrasts with previously published works (Desjardins, 1991; Spence, 1996; Thom, 1978), content validity was generally supported. The findings of this study also supported the predictive validity (Broom, 1980; Donnelly, 2000; Marsh, 1992; NFSHA,

1998; Picou, Steven and Evans, 1974; Soltz, 1986; Spreitzer & Pugh, 1973; Thom, 1978; Zaugg, 1998). Finally it is important to note that when comparing the student athletes' perceptions of sport and education, the differentiations among the summated ratings clearly reinforces construct validity. This study set out to find whether there is a significant difference in athletes' perceptions of sport and education when comparing 4A varsity basketball players and midget AAA hockey players in Alberta?

Conclusion

The results revealed that there is no significant difference in perceptions of education between school-sponsored student athletes and non-school sponsored athletes. Concerning perceptions of post-secondary education the data showed that there is no significant difference between the two athlete groups. The findings indicate that both groups are concerned about their performance in education and that their intentions are to attend post-secondary education. However there is clearly a significant difference in the basketball players' and the hockey players' perceptions of sport. The results showed that most hockey players at the midget AAA level are intending to become professional athletes, while few 4A basketball players are attempting to become professional athletes. As a result, a hockey player's priority is not on attending a post-secondary institution, but on apprenticing in the junior hockey ranks in hopes of becoming a professional athlete.

Should this study be repeated, the general research design and design of the survey instrument need further improvement. The research question needs to be further narrowed. Possibly the question could read: Is there a significant difference in student athletes' intentions towards sport? In redefining the research hypothesis it is important that the hypothesis is testable, reasonable and is relevant to theory or previous research. I recommend a thorough literature review of Ajzen's Theory of Planned Behavior to

anyone interested in repeating this study. The purpose behind his theory is to predict and understand motivational influences on behavior that is not under the individual's volitional control, to identify how and where to target strategies for changing behavior, and to explain virtually any human behavior (Ajzen, 2002). According to the Theory of Planned Behavior, the most important determinant of a person's behavior is behavior intent; the individual's intention to perform a behavior is a combination of attitude toward performing the behavior and subjective norm (Ajzen, 2002).

Having a thorough understanding of Ajzen's theory and research will assist in rewording the survey instrument so that it accurately measures (without ambiguities) what it is intended to do. For example, question three of the survey (Appendix A) is a good question that measures ones effort in school but it does not address ones attitude toward school, and question seven measures ones effort in sport but it does not address ones attitude toward sport, or intention toward sport. Ultimately, the questions that do not assess attitude or intention need to be reworded so that the questions have clear relevance to the research question. I would also highly recommend consulting with an expert in not just the area of research design but someone who is an expert in the subject area prior to finalizing the survey instrument. I would still recommend the Pearson Chi Square test of significance and the use of tables and charts to represent the data.

Implications

If student athletes' attitudes toward secondary education and intentions toward post-secondary education are the same, then it may be that regardless of the actual sport they are participating in during high school sport instils positive attitudes and behaviors toward learning. Student athletes involved in this study shared similar perceptions of learning, but differed in their perceptions of sport. Although hockey players plan to

attend post-secondary education, the timing of when they enter college or university differs from basketball players. This could imply that sport delivery systems have a significant impact on the student athlete's decision to enter post-secondary education, as well as their career focus. One could argue that the culture of a particular sport plays a role in defining an athlete's life and identity (LeClair, 1992). According to LeClair (1992), culture refers to the symbols, social institutions, values, language and technology that make up ones' world. The culture of sport may be a major factor in how school-sponsored and non school-sponsored student athletes view themselves and the world in which they live.

For hockey players there is a symbol that stands for excellence – the National Hockey League Stanley Cup (Dryden & MacGregor, 1989; LeClair, 1992). Inevitably, for midget AAA hockey players in Alberta, the road to this ultimate symbol involves the difficult task of making it to the National Hockey League. Although this journey can take many paths (Appendix D), the path less traveled is where hockey players graduate from midget AAA and high school, then enter college or university to further develop athletically and academically as they prepare for their career and life after hockey. Rather, the hockey player generally chooses to apprentice at the junior levels because that is where the majority of professional athletes are trained (Appendix E). The hockey athlete hopes to become a professional hockey player, but knows that should he not make it as a professional, he can then look to post-secondary education as a viable option.

Professional basketball is unlike professional hockey in that it is not as strongly meshed into Alberta's and Canada's sports culture. Rather basketball's sport delivery system is such that high school basketball precedes college/university basketball, which seldom precedes professional basketball. Therefore, it could be argued that the symbol of

excellence for basketball in Alberta becomes the University of Lethbridge Pronghorns, the University of Alberta Golden Bears, or maybe the Canadian National Team, but not the NBA because Canadian basketball athletes are more likely to identify themselves with visible symbols of excellence (Dryden & MacGregor, 1989; LeClair, 1992) – there is no professional basketball in Alberta with which these basketball players may identify. According to the theory of planned behavior, among the beliefs that determine intention and action is a set that deals with the presence or absence of requisite resources and opportunities (Ajzen & Madden, 1985). Ajzen and Madden (1985, p. 457) said, “The more resources and opportunities individuals think they possess, and the fewer obstacles or impediments they anticipate, the greater should be their perceived control over the behavior.” The high school basketball culture, unlike the hockey culture, prescribes post-secondary education to student athletes that aspire to play at a higher level because there is a presence of more resources and opportunities available to the student athletes that play basketball.

Regarding normative behavior and its relationship to the culture of sport, student athletes behave in accordance with how other people would expect them to behave (LeClair, 1992). The social institutions of sport, such as the Alberta Major Midget Hockey League and the Southern Alberta 4A Boy’s Basketball League, provide the organization and structure that is necessary to deliver sport, and it is through these institutions that perceptions of sport activities are expressed (LeClair, 1992). Therefore, it could be suggested that the results from this study concerning student athletes’ perceptions of sport were mere examples of normal behavior (Ajzen & Madden, 1985). Hence, it is normal for a midget AAA hockey player to want to try to become a professional athlete first, therefore delaying their entry into post-secondary studies, and it

is normal for a talented 4A varsity basketball player in Alberta to want to try to become a college/university athlete.

Considerable evidence in the literature supports the notion that the culture of sport can shape student athletes' view of themselves and the world in which they live (Donnelly, 2000; Dryden & MacGregor, 1989; LeClair, 1992). Although it is impossible to determine from the data in the study exactly why the significant differences among the school-sponsored and non school-sponsored student athletes occurred, I would argue that an explanation based on the different sports cultures and delivery systems is the most likely one. Further research is needed concerning the culture of sport delivery systems and it's relationship to shaping and molding participant attitudes and behaviors toward secondary and post-secondary education, sport and careers aspirations. This type of research could allow a better understanding of how culture and delivery systems influence the perceptions among athletes and how their developmental paths are impacted whether this be as athletes, students or later in their working career.

Recommendations

The value of sport is immeasurable in terms of the role it plays in the development of healthy and productive people. Providing the programs and strategies that are conducive to successfully combining athletics with academics is the responsibility of all those involved with the educational process (educational researchers, teachers, parents, student athletes, coaches and administrators). Therefore, more research concerning perceptions of sport and education among school-sponsored and non school-sponsored sports programs and the delivery of such programs is needed.

The stereotype that student athletes, particularly elite high school hockey players, are "dumb jocks" only concerned about sport and becoming professional athletes must be

countered. Finch (1998, p. 83) states, "In the athletic arena, students develop the importance of conditioning and nutrition, critical thinking strategies, creativity, a sense of independence and confidence, cooperative social skills, perseverance in the face of defeat, the ability to compensate for weaknesses, the ability to utilize their resources to overcome many different obstacles, and grace under pressure." We must acknowledge the important impact that athletic participation has on students in terms of positive behaviors and attitudes instilled.

The following recommendations for further research are made arising from this study:

1. Replication of the study in various geographic locations (both nationally and internationally) is needed to validate the instrument and verify and expand upon the findings (ie. Do high school aged hockey players from British Columbia, Saskatchewan, Ontario..., America, Sweden...etc. share the same perceptions of sport and education of Alberta high school aged hockey players? How do the basketball players of these areas compare in their perceptions?).
2. Studies involving other student athlete populations (ie. figure skaters, swimmers, football players, baseball and softball players) both school-sponsored and non school-sponsored, should be conducted.
3. Studies comparing student athletes from traditional schools with athletes involved in alternative schooling such as sports schools, home study, online schooling, prep schools, etc. should be conducted.
4. Longitudinal studies that compare how perceptions change toward education, sport and career focus from the time a young child begins playing

hockey to the time they graduate from high school and possibly college/university should be undertaken.

5. Studies that examine how perceptions of sport and education change among parents from the time their young child begins playing hockey to the time they graduate from high school and possibly college/university should be conducted.

6. A study tracking the student athletes' later careers would add to the findings of this study.

7. Further research comparing male and female hockey athlete perceptions of sport and education should be conducted.

8. More research concerning the transition from minor/junior hockey to life as a college/university student athlete is needed.

9. More research comparing sport delivery models for hockey to different models from other countries is needed.

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Appendix A

Sport and education Survey

This survey is seeking your truthful response to each statement – there is no right or wrong response! Please circle the letter to your response with either a pen or pencil. This survey is to be completed individually, and you are not to discuss the statements or your responses with anyone (other than the survey administrator) while completing the survey. This survey should take approximately 10 minutes to complete. After completing please return it to the survey administrator.

1. I am in grade
 - a) Grade 9
 - b) Grade 10
 - c) Grade 11
 - d) Grade 12

2. At the time of completing this survey my preferred sport is
 - a) Hockey
 - b) Basketball
 - c) Both

3. I give it my best effort in school.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly Agree

4. I work as hard in school as I do in sport.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly Agree

5. I study approximately _____ hours a week. (Do not include regular scheduled classes)
 - a) 5-10
 - b) 10-20
 - c) 20-30
 - d) 30-40
 - e) 40 – higher

6. I'm disappointed if I don't get above-average grades.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly Agree

7. I give it my best effort in sport.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly agree

8. I work as hard in sport as I do in school.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly Agree

9. I am trying to make it as a career athlete (professional, semi-professional, Europe).
 - a) Disagree
 - b) Agree

10. Including the time that I spend before and after games, practices and dry-land training/team meetings (including travel), I spend approximately _____ hours a week in my sport.
 - a) 5-10
 - b) 10-20
 - c) 20-30
 - d) 30-40
 - e) 40 – higher

11. I am more concerned with how well I do in sport than with how well I do in school.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly Agree

12. I plan to attend fulltime studies at a college/university the year following graduation with or without an athletic scholarship.
- a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly Agree
13. I will not be attending college/university after high school.
- a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly Agree
14. I plan to attend fulltime studies at a college/university only if I get an athletic scholarship.
- a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly Agree
15. I'm only going to college/university if I don't secure a professional contract as a career athlete (professional, semi-pro, Europe).
- a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly Agree
16. Most of the courses that I'm currently taking are at the 10, 20 or 30 level in Math, English, Biology, Chemistry, Physics and Social Studies.
- a) Disagree
 - b) Agree
17. Our team has a minimum academic standard (Grade Point Average) that I must meet in order to be eligible to play.
- a) Disagree
 - b) Agree
18. My grade average on my most recent report card was between _____.
- a) 90% - 100%
 - b) 80% - 89%
 - c) 70% - 79%
 - d) 60% - 69%
 - e) Below 60%

Appendix B

Letter of Consent

March 6, 2001

Dear Sir/Madam:

My name is Rob Morgan and I am a Master of Education student at the University of Lethbridge. I am conducting a study on student athlete attitudes toward sport and education, and I would like your consent to conduct this study.

The purpose of this study is to examine attitudes toward sport and education among grade 10, 11 & 12 varsity basketball and elite hockey players in Alberta. Ultimately, this study is attempting to determine whether there is a significant difference in attitudes toward sport and education between school-sponsored sport athletes (athletes playing 4A varsity basketball) and non-school sponsored sport athletes (athletes playing midget AAA hockey). This research could provide educational researchers, teachers, parents, student athletes, coaches and administrators with a clear understanding of how schools and sport officials address issues concerning the development of student athletes.

As part of this research, student athletes will be asked to complete a paper and pencil survey that will take about 10 minutes. Please note that all information will be handled in a confidential and professional manner. When responses are released, they will be reported in summary form only. Further, all names, locations and any other identifying information will not be included in any discussion of the results. To avoid disruption to the team, I would like to administer the survey prior to a practice, game or team function/meeting sometime in late February or early March.

Your assistance is greatly appreciated with this study. If you have any questions please call me at (403) 381-2970 or you can email me at. For additional information, feel free to contact either of the co-supervisors of my study, Dr. Keith Roscoe (403) 329-2446 or keith.roscoe@uleth.ca, and Dr. Cathy Campbell (403) 329-3286 or cathy.campbell@uleth.ca. Dr. Roscoe is also the Chair of the Human Subjects Research Committee.

Student athletes may not participate in this study unless their consent is provided. The researcher will brief the student athletes about the study and inform them that their involvement is completely voluntarily. This will take place prior to administering the survey. If a student athlete is under the age of 16, they will be required to have parental consent in order to participate in this study.

Please complete the attached consent form and fax return to (403) 329-2709, attention Rob Morgan. I will also follow up with a phone call tomorrow.

Sincerely,
Rob Morgan

Appendix C

Research Survey Consent Form

Through my signature below I have agreed to participate in Rob Morgan's study on student athlete attitudes toward sport and education. I am aware that Mr. Morgan is a graduate student at the University of Lethbridge. I understand that all the responses of the prospective research participants will be treated confidentially and anonymity will be guaranteed.

My name will not be used in any report, oral or written, based on this research.

Signature _____ Date: _____

Please identify your position by checking the box:

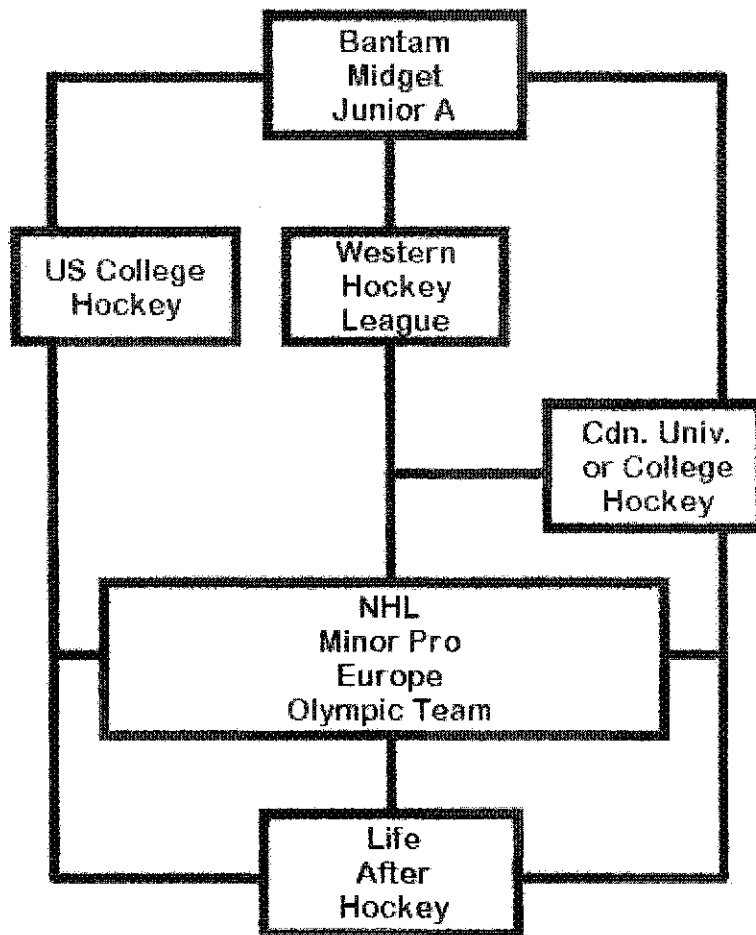
- Superintendent
- Principal
- Coach
- Athlete

Representing: _____

Parent/Guardian _____ Date: _____

(If student athlete is under the age of 16)

Appendix D
Hockey Players' Critical Decision Path



Note. From "Future educational options," Western Hockey League, 2001).

www.whl.ca/education6.shtml

Appendix E

National Hockey League Entry Draft Summary

Year	OHL	WHL	QMJHL	US Colleges	USHS	Int'l	Other
1969	36	20	11	7	-	1	9
1970	51	22	13	16	-	-	13
1971	41	28	13	22	-	-	13
1972	46	44	30	21	-	-	11
1973	56	49	24	25	-	-	14
1974	69	66	40	41	-	6	25
1975	55	57	28	59	-	6	12
1976	47	33	18	26	-	8	3
1977	42	44	40	49	-	5	5
1978	59	48	22	73	-	16	16
1979	48	37	19	15	-	6	1
1980	73	41	24	42	7	13	10
1981	59	37	28	21	17	32	17
1982	60	55	17	20	47	35	18
1983	57	41	24	14	35	34	37
1984	55	37	16	22	44	40	36
1985	59	47	15	20	48	31	31
1986	66	32	22	22	40	28	42
1987	32	36	17	40	69	38	20
1988	32	30	22	48	56	39	25
1989	39	44	16	48	47	38	20
1990	39	33	14	38	57	53	16
1991	43	40	25	43	37	55	21
1992	57	45	22	9	25	84	22
1993	60	44	23	17	33	78	31
1994	45	66	28	6	28	80	33
1995	54	55	35	5	2	69	14
1996	51	54	31	25	6	58	16
1997	52	63	19	26	4	63	19
1998	50	44	41	27	7	75	14
1999	52	40	20	36	9	94	21
2000	39	41	21	35	7	123	27
Total	1624	1374	738	918	625	1208	612
Total Players Drafted (1969-Present):							7,099

Note. From *Entry Draft Summary*, National Hockey League, 2001,

www.nhl.com/futures/draftsummary.html

Appendix F

Survey Instrument Blueprint

A = Statements that contribute to understanding athlete attitudes toward secondary education. H1

B = Statements that contribute to understanding athlete attitudes toward sport. H2

C = Statements that contribute to understanding athlete intentions toward post-secondary education. H3

D = Statements that contribute to categorization, description and discussion.

Data Codes	Survey Question	Hypothesis Addressed	Relevance to Hypothesis
A	3. I give it my best effort in school. f) Strongly disagree g) Disagree h) Neutral i) Agree j) Strongly Agree	H1	Statement that contributes to understanding athlete attitudes toward secondary school.
A	4. I work as hard in school as I do in sport. f) Strongly disagree g) Disagree h) Neutral i) Agree j) Strongly Agree	H1	Statement that contributes to understanding athlete attitudes toward secondary school.
A	5. I study approximately _____ hours a week. (Do not include regular scheduled classes) f) 5-10 g) 10-20 h) 20-30 i) 30-40 j) 40 -- higher	H1	Statement that contributes to understanding athlete attitudes toward secondary school.
A	6. I'm disappointed if I don't get above-average grades. f) Strongly disagree g) Disagree h) Neutral i) Agree j) Strongly Agree	H1	Statement that contributes to understanding athlete attitudes toward secondary school.

B	7. I give it my best effort in sport. f) Strongly disagree g) Disagree h) Neutral i) Agree j) Strongly agree	H2	Statement that contributes to understanding athlete attitudes toward sport.
B	8. I work as hard in sport as I do in school. f) Strongly disagree g) Disagree h) Neutral i) Agree j) Strongly Agree	H2	Statement that contributes to understanding athlete attitudes toward sport.
B	9. I am trying to make it as a career athlete (professional, semi-professional, Europe). c) Disagree d) Agree	H2	Statement that contributes to understanding athlete attitudes toward sport.
B	10. Including the time I spend before and after games, practices and dry-land training/team meetings (including travel), I spend approximately _____ hours a week in my sport. f) 5-10 g) 10-20 h) 20-30 i) 30-40 j) 40 -- higher	H2	Statement that contributes to understanding athlete attitudes toward sport.
B	11. I am more concerned with how well I do in sport than with how well I do in school. f) Strongly disagree g) Disagree h) Neutral i) Agree j) Strongly Agree	H2	Statement that contributes to understanding athlete attitudes toward sport.

C	12. I plan to attend fulltime studies at a college/university the year following graduation with or without an athletic scholarship. f) Strongly disagree g) Disagree h) Neutral i) Agree j) Strongly Agree	H3	Statement that contributes to understanding athlete intentions toward post-secondary education.
C	13. I will not be attending college/university after high school. f) Strongly disagree g) Disagree h) Neutral i) Agree j) Strongly Agree	H3	Statement that contributes to understanding athlete intentions toward post-secondary education.
C	14. I plan to attend fulltime studies at a college/university only if I get an athletic scholarship. f) Strongly disagree g) Disagree h) Neutral i) Agree j) Strongly Agree	H3	Statement that contributes to understanding athlete intentions toward post-secondary education.
C	15. I'm only going to college/university if I don't secure a professional contract as a career athlete (professional, semi-pro, Europe). a) Strongly disagree b) Disagree c) Neutral d) Agree e) Strongly Agree	H3	Statement that contributes to understanding athlete intentions toward post-secondary education.

D	1. I am in grade e) Grade 9 f) Grade 10 g) Grade 11 h) Grade 12		Categorization, Description, & Discussion
D	2. At the time of completing this survey my preferred sport is d) Hockey e) Basketball f) Both		Categorization, Description, & Discussion
D	16. Most of the courses that I'm currently taking are at the 10, 20 or 30 level in Math, English, Biology, Chemistry, Physics and Social Studies. c) Disagree d) Agree		Categorization, Description, & Discussion
D	17. Our team has a minimum academic standard (Grade Point Average) that I must meet in order to be eligible to play. c) Disagree d) Agree		Categorization, Description, & Discussion
D	18. My grade average on my most recent report card was between f) 90% - 100% g) 80% - 89% h) 70% - 79% i) 60% - 69% j) Below 60%		Categorization, Description, & Discussion