

**WHAT'S THE MINDSET? AN INVESTIGATION OF JUNIOR HOCKEY  
PLAYERS' ATTITUDES TOWARD SPORT PSYCHOLOGY**

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## **Dedication**

To my grandparents, Jim and Joyce Griffin.

Grandpa, your continued learning and vast knowledge has always inspired me.

Grandma, your belief in the value of education and commitment to helping your grandchildren pursue an education is truly admirable.

Thank you for your generosity, encouragement, and love.

## **Abstract**

In this study, 114 Canadian junior hockey players' attitudes toward sport psychology were investigated. Participants provided demographic information and completed two questionnaires. Results indicate that Canadian junior hockey players are willing to utilize sport psychology services, prefer sport psychologists as opposed to other psychological professionals, do not express stigma toward sport psychologists, and are confident in the efficacy of sport psychology; however, express an unwillingness to disclose personal information. Participants identified strongly with a growth mindset, and a positive correlational relationship was found between a growth mindset and confidence in the efficacy of sport psychology. Participants did not identify strongly with a fixed mindset; however, increased identification with a fixed mindset is associated with increased stigma, decreased personal openness, and decreased confidence in sport psychology. Ultimately, Canadian junior hockey players hold positive attitudes toward sport psychology and express interest in using sport psychology services to optimize performance and mental health.

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## Chapter 1: Introduction

Canadian junior hockey players leave home, during their teenage years, to pursue excellence in sport. In this pursuit, these young men navigate moving to a new city, living in a different home, and changing schools, while also practicing daily, traveling frequently, and playing weekly—alongside and against the best hockey players in Canada. Fortunately, these athletes have access to professional staff (e.g., expert coaches, medical doctors, academic advisors, athletic trainers, chiropractors, physical therapists) that help them excel on the ice, succeed in school, optimize physical fitness, and recover from injuries. However, access to psychological services is conspicuously absent from the staff lists of most Canadian junior hockey teams.

For example, a premier Canadian junior league team has the following members listed as part of their staff: athletic trainer, physicians, dentists, chiropractors, physiotherapists, optometrists, and orthopedic consultants. This exhaustive list of professionals illustrates the excellent physical care these athletes have access to; however, there is not one staff member listed to provide psychological care. In fact, there is a significant lack of psychological professionals working with teams in the Alberta Junior Hockey League (AJHL), British Columbia Hockey League (BCHL), and Western Hockey League (WHL).

A search of the staff lists of AJHL teams found that two of the 16 teams include psychological services (e.g., life skills and personal development coach) as part of their coaching staff. In the BCHL, two of the 17 teams have psychological services (e.g., mental performance coach) listed as part of the staff. Of the 22 WHL teams, four have psychological services (e.g., mental trainer, mental performance consultant, sport

psychologist) listed on their team website as part of the staff. These staff lists clearly illustrate that psychological professionals such as counsellors, mental coaches, or sport psychologists are underrepresented in junior hockey.

Promisingly, in 2015 and 2016 respectively, the BCHL and the WHL introduced the *Talk Today* program to support players' mental health. *Talk Today* is a mental health initiative developed by the Canadian Mental Health Association. The program consists of mental health training and community events, as well as a mental health liaison and mental health champion for each team (Puri, 2015). More recently, in January of 2017, the Brooks Bandits of the AJHL hosted a mental health awareness night (King, 2017). The theme was "Break the Silence," and the players wore special jerseys that were auctioned off, with proceeds going to the Canadian Mental Health Association (King, 2017). *Talk Today* and the Brooks Bandits mental health awareness night indicate that mental health awareness is growing in junior hockey and leagues are beginning to provide the necessary resources for their athletes.

Unfortunately, the task of providing psychological services for junior hockey players in Canada is confounded by lack of clarity in the role of psychological professionals. Furthermore, the titles of these professionals differ (e.g., mental coach, sport psychologist, mental performance consultant, life skills coach), and it is not clear from whom the athletes prefer to seek help. Who do players prefer to seek help from when they are stressed about poor performances? Who do players prefer to seek help from when they are feeling depressed? There are no clear answers to these questions, as providing psychological services for performance improvement or mental health issues is still in its infancy in Canadian junior hockey.

At this time, no research has been done to determine Canadian junior hockey players' attitudes toward sport psychology and utilizing sport psychology services. However, research conducted with university student athletes has shown that male athletes competing in contact team sports—as compared to female athletes, athletes participating in non-contact sports, and individual sport athletes—express increased stigma, and decreased personal openness, toward seeking psychological help (Martin, Zakrajsek, & Wrisberg, 2012). Furthermore, though individual differences have been found, the existing research pertaining to elite athletes' attitudes toward sport psychology does not include an investigation of the relationship between mindset and athletes' attitudes toward sport psychology.

To this end, an investigation of how individual differences in mindset relate to junior hockey players' attitudes toward sport psychology will be conducted. Specifically, research by Dr. Carol Dweck has found that two contrasting mindsets exist in achievement settings: a growth mindset and a fixed mindset. A growth mindset is characterized by a belief that intelligence and ability are malleable and controllable qualities, whereas a fixed mindset is characterized by a belief that intelligence and ability are fixed and uncontrollable traits (Dweck & Leggett, 1988). Research has found that, in sport, a fixed mindset is maladaptive and associated with amotivation, decreased enjoyment, and increased competition anxiety (Biddle, Wang, Chatzisarantis, & Spray, 2003; Ommundsen, 2001). Thus, the current research intends to extend the investigation of the role of mindset in sport by assessing the correlational relationship between mindset and attitudes toward sport psychology.

Canadian junior hockey players are a distinct group of elite youth athletes who manage unique challenges and demands associated with their sport participation. In light of this, it is important for these athletes to have access to psychological services to foster optimal performance and support mental health. Research over the past 30 years has repeatedly recommended that psychological services be made available to support these athletes as they traverse their teenage years and junior hockey careers (Desjardins, 1991; McCoy, 2015; Robinson & Bernes, 2004). With the introduction of the *Talk Today* program in the BCHL and WHL, important steps are certainly being taken to support players' mental health. To take another step, AJHL, BCHL, and WHL players' attitudes toward sport psychology and seeking psychological assistance, their mindsets, and the relationship between attitudes and mindset were investigated.

### **The Purpose of This Study**

The purpose of the current study was to gain a comprehensive understanding of Canadian junior hockey players' attitudes toward sport psychology. This included gathering demographic information and information pertaining to sport experience, experience with sport psychology, willingness to use sport psychology, and preferences for a psychological professional. Furthermore, questionnaires were used to assess attitudes toward sport psychology and mindset. Finally, individual differences were explored, and correlational relationships between attitudes toward sport psychology and mindset were analyzed. The results answer the following research questions:

1. What are Canadian junior hockey players attitudes toward sport psychology?
2. What are the mindsets (growth vs. fixed) of Canadian junior hockey players?

3. What are the correlational relationships between attitudes toward sport psychology and mindset?
4. What individual differences, in attitudes toward sport psychology, exist among Canadian junior hockey players?

### **The Significance of This Study**

Junior hockey players in Canada are a distinct group of elite athletes because of the physical, psychological, and social implications of their sport participation. This exclusive group of teenagers manage demanding schedules, play in front of large crowds, and garner attention from prestigious universities and professional teams. For this reason, and many more, it is important to assess these athletes' attitudes toward sport psychology and seeking psychological help. The findings will provide information relevant to the access to and provision of psychological services in junior hockey, add to existing literature on junior hockey players, add to the literature on attitudes toward sport psychology, and explore the potential relationship between mindset and attitudes toward sport psychology.

### **Personal Connection**

The focus of the current research is directly linked to the personal experience of this writer, who had the privilege of playing in the AJHL and remains a fan of the exceptional junior hockey leagues in Canada to this day. Nevertheless, this writer faced some of the challenges that will be outlined and believes that the support of a psychological professional would have been beneficial throughout junior hockey.

This writer was inspired by a former AJHL player and University of Lethbridge alumni, Derek Robinson. Mr. Robinson completed a master's thesis that investigated the



collaboration and referral process between AJHL coaches and psychologists. Mr. Robinson's research found that AJHL coaches believe there is a significant need for players to have access to psychological services, although barriers exist and collaboration is limited. In 2004, Robinson and Bernes advocated for increased access to psychological services. Since that time, there has been no research conducted in the area. Thus, this writer intends to build upon the work completed by Mr. Robinson by investigating Canadian junior hockey players' attitudes toward seeking psychological help.

## **Chapter 2: Literature Review**

This chapter provides an overview of youth sport participation with an emphasis on elite youth sports and junior hockey. Due to the nature of the research, the focus of the literature review is on the demands and challenges of elite youth sport; this focus is not intended to diminish or discount the benefits of elite youth sport participation. Thereafter, a description of sport psychology and elite athletes' attitudes toward sport psychology and seeking psychological assistance will be presented. Finally, research on mindset and the role of mindset in sport will conclude the literature review.

### **Youth Sport Participation**

Organized sport is the most common out-of-school activity among youth today, with as many as 70% of young Canadians participating in sport (Canadian Heritage, 2003; Zarrett, Lerner, Carrano, Fay, Peltz, & Li, 2008). This finding is significant as research indicates that youth sport participation may help to mitigate rising obesity trends and combat increasingly sedentary lifestyles (Holt & Sehn, 2008; Zarrett et al., 2008). In fact, sport is the largest source of physical activity among youth and is associated with many biological, psychological, and social benefits (Zarrett et al., 2008). For example, sport participation is associated with decreased body fat and increased flexibility (Ford, 2011), higher academic achievement and an increased likelihood of attending post-secondary education (Barber, Eccles, & Stone, 2001), and social benefits such as learning to work as a team and developing friendships (Petitpas, Cornelius, & Van Raalte, 2007). In short, youth sport participation is a vital and valuable part of Canadian culture and the well-being of Canada's youth.

**Well-being.** To understand how sport participation influences well-being, it is necessary to define well-being. However, the concept is difficult to define as it encompasses the physical, psychological, and social aspects of the human experience (Helliwell & Barrington-Leigh, 2010). What's more, an individual's well-being is subjectively determined, and can be influenced by both endogenous and exogenous forces. Mechanic and Hansell (1987) found that young people gain their sense of well-being by gauging their physical and psychological health, as well as by evaluating their performance in academic, sport, and social activities, relative to their peers. Ultimately, an individual may view his/her well-being as positive or negative based on a cognitive appraisal, or an internal state of emotion, felt in response to an event, or during a specific period of time. It is appropriate to conceptualize well-being using a biopsychosocial approach.

**Biopsychosocial approach.** Seminal work by Engel (1978) led to a paradigm shift in the way health and treatment are understood. Engel (1978) proposed a new model to conceptualize ailments, and how to approach treatment, based on what he called a biopsychosocial approach. Specifically, rather than relying solely on a biological explanation of ailments, the biopsychosocial approach considers an individual's biology, psychology, and social reality.

The biopsychosocial approach can be used as a framework to interpret the experiences of elite youth athletes. For example, Puentedura and Louw (2012) utilized a biopsychosocial approach to understand the experience of persistent back pain among elite athletes, Baum (2006) outlines why using a biopsychosocial approach is necessary in the treatment of eating disorders among male athletes, Eklund and DeFreese (2015)

profess the approach is necessary for understanding burnout in elite athletes, and Wiese-Bjornstal (2010) advocate the use of a biopsychosocial approach to understand elite youth athletes' injury experiences. These examples highlight the fact that the biopsychosocial approach is proven to be an appropriate, holistic approach to understanding elite athletes' experiences and challenges. That is, elite sport functions within a complex physical, psychological, and social environment, and therefore to understand the experience of athletes it is important to use a biopsychosocial approach that conceptualizes the athlete holistically.

**Developmental Model of Sport Participation.** Along with a biopsychosocial approach, a developmental perspective is necessary to conceptualize athletes' experiences across time. Moreover, the nature of young athletes' involvement with sport and specific sport activities shift with age. The Developmental Model of Sport Participation (DMSP), developed by Côté (1999), has identified three distinct stages of sport participation: sampling years (ages 6-13), specializing years (ages 13-15), and investment years (age 16 and over). Sampling years and investment years differ significantly in the amount of time dedicated to deliberate play (i.e., fun activities that are not always facilitated by an adult) and deliberate practice (i.e., strenuous activity facilitated by an adult and intended for skill development) (Côté, Baker, & Abernethy, 2007). During investment years, athletes commit to one sport, spend a tremendous amount of time engaging in deliberate practice, and significantly less time engaging in deliberate play. Elite performance and improved physical fitness are achieved during investment years; however, negative outcomes may also occur.

**Summary.** As detailed above, the extant literature clearly indicates that youth sport participation can foster good health and life-long skills (Gould & Carson, 2008). Undoubtedly, youth sport participation is a beneficial activity that can positively influence well-being. However, when athletes begin to participate in sport at an elite level the dynamics change and challenges arise. In fact, there are biological, psychological, and social realities endemic to elite youth sport (Oliver, Lloyd, & Meyers, 2011). Therefore, a comprehensive overview of the demands and challenges of elite youth sports, and the junior hockey experience, will be presented.

### **Elite Youth Athletes**

The benefits of youth sport participation outlined above are certainly experienced by elite youth athletes. Furthermore, the opportunity to play sport at an elite level may include significant benefits not available for the non-elite athlete. Unfortunately, stressors and difficulties also exist. To facilitate an optimal experience, it is important to understand the demands and challenges of elite youth sport, and their influence on well-being.

**Elite athletes defined.** The research presented encompasses elite athletes from a wide variety of sports and ranging in age from 12 to 21 years old. The purpose of this is to provide a broad understanding of the unique experiences, demands, and challenges of elite youth sport, as relying exclusively on the dearth of research on Canadian junior hockey players would fail to illustrate the elite athlete experience. Thus, though sport-specific differences exist, the information presented generally applies to junior hockey players as they are elite youth athletes.

Participating in elite youth sport is a privilege enjoyed by a small minority of the total athlete population. Elite young athletes differ from their non-elite peers because they have superior athletic talent, receive specialized coaching, and frequently practice and compete (Armstrong & MacManus, 2011). Elite athletes dedicate a significant amount of time and energy toward excelling in their respective sports. The investment of time, money, and effort directly impacts elite youth athletes' physical development, psychological experience, and social life. Consequently, during this important transitional period of life, elite youth athletes traverse life experiences that are intimately intertwined with sport participation.

**Developmental considerations.** Investigating the influence of elite youth sport participation on well-being is particularly important because of the immense physical, psychological, and social changes adolescents undergo (Blakemore & Choudhury, 2006). There is no definite consensus on the age at which adolescence starts and finishes, although generally between the ages of 12 and 20 young people undergo hormonal changes that lead to reproductive, cardio-respiratory, and musculoskeletal changes (Kaczmarek & Riva, 1996; Schubring & Thiel, 2014). Neurological changes also occur during adolescence and directly impact the way individuals experience the world (Dahl, 2004). While developing physically and psychologically, young people navigate changes in their social lives that often include shifting peer groups and renegotiating roles (Kaczmarek & Riva, 1996).

Young people's development can be significantly influenced by lifestyle factors. Two important factors that have been identified are nutrition and sleep, which have been shown to impact development, growth, and maturation (Jeukendrup & Cronin, 2011;

Williams, 2011). For elite athletes, environmental demands may be exacerbated because of increasing nutritional needs and a potential increase in stressors associated with extensive training and frequent competition (Williams, 2011). Thus, the lifestyle demands of elite youth sport may make it difficult to ensure adequate nutrition, sleep, and—ultimately—well-being (Williams, 2011).

As noted, elite male athletes undergo significant physical and psychological development during their adolescent years. With the exception of gymnasts and ballet dancers, young male athletes are typically taller and have larger body mass than their non-athlete peers (McManus & Armstrong, 2011). Variability of maturation contributes to significant differences in size and strength that occur concurrently with the highest participation levels (ages 12–15) in elite sport (McManus & Armstrong, 2011). Varying rates of development impact sport competence and ability, and may contribute to an exaggerated gap in skill level among elite youth athletes. The rapid physical, psychological, and social changes that impact all young people may be compounded for elite youth athletes.

**Sport specialization.** Youth athletes competing at elite levels often commit to sport specialization, which means they make a commitment to themselves and significant others (parents/coaches) to focus their time and energy on one sport (Winsley & Matos, 2010). This commitment may lead to extreme demands on the young person's time, which can result in decreased feelings of autonomy, and increased frustration and stress (Winsley & Matos, 2010). As such, elite athletes who specialize in one sport may be at risk of overloading and overuse injuries, as well as psychological stress (Jayanthi, Pinkham, Dugas, Patrick, & LaBella, 2013; Schubring & Thiel, 2014). In Canadian

hockey, increased physical maturity and size at a younger age has led to younger players being selected for junior hockey clubs, raising concern regarding the physical and psychological development of these players (Bruner, 2002). Fortunately, Bruner (2002) investigated the cognitive, social, and emotional implications of promoting younger players to the junior ranks and found no significant difference in the development of ‘fast-trackers’ as compared to ‘non-fast-trackers.’

**Self-image.** An elite youth athlete’s identity is strongly related to the athlete’s physical ability and sport experiences. Schubring and Thiel (2014, p. 79) highlight the fact that elite youth athlete’s identity is shaped by a socialization into sport which is called “athleticization” and is described as a specific way of experiencing, thinking, and acting that is directly linked to sport participation. Put simply, extensive sport training and competition influences the way athletes view themselves and the world (Schubring & Thiel, 2014). As a result, elite athletes may experience a crisis if their physical and psychological development differs from the “rigid social and physical norms of elite sports” (Schubring & Thiel, 2014, p. 80).

The effect athleticization has on the way athletes view themselves and the world is evident in the way they view their bodies. For example, an athlete described herself as “too tall” and stated that her height is “bad” for her sport (Schubring & Thiel, 2014). The example illustrates how athletes may view their bodies negatively because of the mismatch between the body they have and the ideal body to excel in their respective sport. The asynchrony of the body one has, and the ideal body for the respective sport, may be a source of psychological stress and may also contribute to injury. Ultimately, “asynchrony of the biological and social developmental pace,” “change of reference



group,” and “overloading conditions” influence the self-image of elite youth athletes and may influence their biopsychosocial well-being (Schubring & Thiel, 2014, p. 82).

**Eating disorders.** Schubring and Thiel (2014) found that elite athletes are at an increased risk of developing eating disorders. Their finding is supported by earlier work by Sundgot-Borgen and Torstveit (2004) who found that elite athletes have a higher frequency of eating disorders than their non-elite athlete peers. The aforementioned athleticization of elite youth athletes may contribute to the prevalence of eating disorders. To excel in sport, athletes may engage in maladaptive eating behaviours to achieve the body considered most suitable for their sport. Furthermore, early sport-specific training, intense exercise, and pressure to perform have been found to contribute to the prevalence of eating disorders among elite athletes (Sundgot-Borgen & Torstveit, 2004).

Elite athletes may risk their well-being by not receiving the proper nutrition to support heavy training and competition loads. It is known that nutrition impacts the proper growth and development of youth, and significantly impacts performance and recovery (Jeukendrup & Cronin, 2011). Therefore, ensuring athletes receive the appropriate energy intake is important for performance, development, and overall well-being (Jeukendrup & Cronin, 2011). Negative consequences of disordered eating may be compounded by the intense exercise necessary in elite sport, which in turn may contribute to serious physical and psychological problems. Eating disorders (and other maladaptive behaviours) may be influenced by a culture of risk-taking that exists within elite sports.

**Risk-taking behaviours.** The competitive nature of elite sports may foster risk-taking behaviour, defined as “the degree of risk individuals associate with a substance, event, or behaviour” and their propensity to take those risks (Duistman & Colbry, 1995,

p. 44). Extreme risk-taking behaviour can be particularly dangerous in sport. For example, athletes who decide to *play through* a concussion subsequently risk further head trauma.

Interestingly, risk-taking behaviour is not limited to sport participation. Away from sport, elite athletes have been found to engage in potentially harmful risk-taking behaviours such as substance abuse. Research has shown that competitive high school athletes are more likely to binge drink, use tobacco, and use steroids than their non-athlete counterparts (DuRant, Escobedo, & Heath, 1995). In addition, during their last three months of high school athletes are more likely to engage in sexual activity, and drink more heavily and more often than non-athletes (Wetherill & Fromme, 2007). This finding is juxtaposed by research on younger athletes that found sport participation was correlated with less alcohol use and less sexual activity (Pate, Trost, Levin, & Dowda, 2000). Moreover, there may be a point in the age range when the influence of sport participation on sexual activities and substance abuse switches from a decreased likelihood to an increased likelihood. This change in behaviour may occur concurrently with sexual maturation and the increase in social prominence athletes who compete at an elite level tend to experience.

**Relationship with coaches.** Elite youth athletes spend a significant amount of time with their coaches. In some sports, athletes reach their highest levels of competition during adolescence, and therefore may be expected to have a higher level of maturity than considered reasonable for their chronological age (Brackenridge & Kirby, 1997). Excelling in sport also requires demanding and repetitive practice that is often facilitated by a coach (Gervais & Dunn, 2004). In some cases, coaches make a significant personal

investment in a young elite athlete because it may benefit that coach's career (Gervais & Dunn, 2004). Thus, coaches are essential for the performance and skill development of elite youth, however, the power they have over athletes combined with a perceived potential for career advancement can lead to abuse.

In one study, all of the elite young athletes interviewed reported some form of emotional abuse from their coach (Gervais & Dunn, 2004). One described his coach as a "power maniac." Another described feeling "upset and depressed most of the time when I was training" (Gervais & Dunn, 2004, pp. 221-222). Furthermore, "belittling and humiliation behaviour" was reported, and the athletes described feeling "worthless," "upset," "angry," and/or "depressed" as a result of their experience with their coach (Gervais & Dunn, 2004, p. 215). These findings are particularly troubling and highlight some of the psychological challenges faced by elite youth athletes.

The psychological abuse that elite youth athletes may be subjected to by adults is potentially damaging to their overall well-being. Unfortunately, elite youth athletes may also be at risk of sexual abuse by adults who facilitate sport. Research indicates that coaches have significant power and influence over their athletes and, as such, may increase their ability to engage in predatory sexual abuse (Baker & Byon, 2014). An extreme example is the elite level hockey coach Graham James, who sexually abused several young athletes under the guise of being an altruistic coach (Baker & Byon, 2014). Research has shown that elite youth athletes are at increased risk of sexual abuse relative to their non-elite athlete peers, although researchers also note that information regarding the potential for sexual abuse in elite youth sports is limited (Baker & Byon, 2014;

Leahy, Pretty, & Tenenbaum, 2002). Further research is warranted to prevent sexual abuse and protect the well-being of elite youth athletes.

**Relationship with parents.** The parents of elite youth athletes may negatively impact their child's well-being. This occurs when parents are unable to differentiate between their own desires and aspirations, and those of their child. Moreover, parents may engage in risky sacrifice, objectification, and abuse, if sport performance is valued higher than the well-being of their child (Jellinek, Tofler, Knapp, & Drell, 1999). Risky sacrifice occurs when a parent takes a significant risk (e.g., moving to another city or taking out financial loans) to support their child's athletic pursuit (Jellinek et al., 1999). In some cases, risky sacrifice may be warranted; however, it may also put undue psychological stress on the young athlete. Objectification occurs when a parent is no longer able to make decisions in the best interests of their child, and instead makes decisions based on excelling in sport (Jellinek et al., 1999). If a young athlete is viewed as a commodity that will provide financial dividends that individual's well-being may be threatened.

**Risk of injury and injury culture.** Young elite male athletes may be exposed to a greater risk of injury during development due to exaggerated differences in size. In 2010, a review by Steffen and Engebreston stated that more data was needed to assess the risk of injury for elite youth athletes. To this end, Merkel (2013) investigated the risk of injury and found that elite athletes are at an increased risk of injury compared to their non-athlete peers (Merkel, 2013).

An increase in youth sport participation has coincided with an increase in sports-related injuries (Merkel, 2013). The growth period that occurs during adolescence

contributes to increased tensile forces on anatomic structures—such as growth plates, apophyses, and joints—and increases the risk of bone and growth plate fractures (Merkel, 2013). Furthermore, during adolescence, the vast continuum of biological maturity, along with decreased flexibility, coordination, and balance for some athletes, may increase the risk of injury (Maffulli, Longo, Gougoulas, Loppini, & Denaro, 2010; Merkel, 2013). Elite athletes may also undergo a transition into intensive training that may or may not include competing against older athletes, which can increase the risk of injury (Maffulli et al., 2010). Researchers have found that elite youth athletes are subjected to a high risk of injury, which may be a threat to their well-being and long-term health (Maffulli et al., 2010).

Minimizing injury is an important aspect of sport, as it has been reported that 10% of athletes withdraw from sport due to injury (Maffulli et al., 2010). The most common injuries that result in withdrawal from sport involve the joints of the shoulder, ankle, and knee (Maffulli et al., 2010). Injuries to the knee are particularly concerning: individuals who sustain a knee injury are 50% more likely to have knee osteoarthritis later in life, as opposed to 5% of uninjured individuals (Maffulli et al., 2010). Research has also found that elite youth athletes may be at an increased risk of spine pathology (Maffulli et al., 2010). Specifically, overuse and overloading in elite youth sport can cause injuries to the spine during growth that may lead to chronic back pain and negative long-term consequences (Maffulli et al., 2010).

It is important to note that the risk of injury differs across sports. For instance, hockey players are at an increased risk of concussion, whereas endurance athletes are at a greater risk of overtraining (Willer, Kroetsch, Darling, Hutson, & Leddy, 2005; Winsley

& Matos, 2011). Furthermore, ice hockey has been identified as a high-risk sport for concussions—particularly when body checking is introduced (Willer et al., 2005). Moreover, when body checking is introduced there are a higher number of injuries that occur more frequently at the elite level (Willer et al., 2005).

Concussions in sport are a hot topic because of the short-term neurological symptoms and potential long-term post-concussive symptoms that negatively impact cognition (Halstead, & Walter, 2010). Short-term effects may include: alteration in consciousness, amnesia, confusion, delayed cognitive responses, memory and learning difficulties, headache, and irritability (Macciocchi, Barth, & Littlefield, 1998). Long-term effects, though not entirely understood, can contribute to poorer neurophysiological capabilities and mental health issues. Research has shown that young athletes who sustain two or more concussions may suffer decreased overall neurophysiological functioning and decreased attention/mental speed (Collins et al., 2002). As such, it is imperative that concussions, and other injuries, be properly treated to minimize negative long-term outcomes.

An injury culture has been identified in elite youth sport that includes downplaying injury, playing through injury, and normalizing injury—potentially increasing the negative effects of injury in elite sport (Curry, 1993; Schubring & Thiel, 2014). Moreover, the normalization of injuries contributes to athletes playing through pain and ignoring symptoms, which may lead to chronic pain—a life-long threat to well-being (Curry, 1993; Schubring & Thiel, 2014). The culture of risk that exists within elite sports also promotes risky treatment of bodies and health, and trivializes playing while hurt (Curry, 1993; Nixon, 1996). Consequently, the injury culture can contribute to

ignoring and/or concealing injuries which may result in long-term physical and psychological consequences. The injury culture is particularly troubling in regard to concussions because of long-term neurological implications.

**Burnout.** The time and energy commitment of elite youth sport contributes to the risk of burnout, which is the process of overworking one's body by overtraining, or exhausting one's mind by constantly striving to excel in sport (Winsely & Matos, 2011). Burnout has the potential to negatively impact various aspects of an athlete's life, such as relationships, schoolwork, and sport enjoyment. Winsely and Matos (2011) identified a host of negative outcomes associated with burnout, including injury, performance loss, mood disturbances, and chronic exhaustion. Thus, it is evident that the residual effects of burnout may negatively impact an athlete's well-being.

**Transitions.** There are significant transitions that occur in elite youth sport, and each transition has different demands and challenges. Career transitions are a distinct period of change in athletes' lives and directly impact how they perceive themselves, their abilities, and their quality of life, subsequently influencing physical, emotional, and psychological health (Lavalley & Wylleman, 2000). Transitions will be discussed further in relation to junior hockey.

**Performance stress.** Many elite youth athletes experience intense pressure to perform. This may come from many sources including but not limited to coaches, parents, and teammates. Fear of failure has been found to have a negative effect on well-being, interpersonal behaviour, sport performance, and schoolwork (Sagar, Lavalley, & Spray, 2009). Performance stress will be discussed further in relation to junior hockey.

**Mental health.** Elite youth athletes are normal in that they experience mental health issues as any person might. Depression among them certainly exists and factors such as performance stress, injury, and career termination may increase the risk of depression compared to the general population (Wolanin, Gross, & Hong, 2015). Wolanin, Gross, and Hong (2015), note that there is limited research pertaining to the assessment and treatment of depression among athletes. Furthermore, depression among elite athletes is difficult to identify because of atypical signs and symptoms, underutilization of treatment due to stigma, and time constraints (Wolanin, Gross, & Hong, 2015). Nixdorf, Frank, and Beckmann (2015) found that sport specific demands and major sport stressors were associated with higher levels of depressive symptoms among elite athletes.

In 2016, a systematic review of the research investigating elite athletes' mental health was conducted (Rice, Purcell, De Silva, Mawren, McGorry, & Parker, 2016). The review included 60 studies with a focus on anxiety, depression, eating disorders, substance misuse, stress, well-being, and the general prevalence of mental health issues (Rice et al., 2016). It found that "elite athletes experience a broadly comparable risk of high-prevalence mental disorders (e.g., anxiety, depression) relative to the general population" (Rice et al., 2016, p. 1333). The authors also noted there may be greater risk of mental health issues when an injury has occurred, pre- or post-retirement, and when experiencing performance difficulties (Rice et al., 2016). Thus, the systematic review of relevant literature indicates that elite athletes do experience mental health issues that may be related to both sport and non-sporting factors.



Hughes and Leavey (2012) state there is a “need for research into the incidence and etiology of mental illness within elite sport” (p. 95). Furthermore, Rice et al. (2016) recommend that “high-quality epidemiological and intervention studies are needed to inform optimal strategies to identify and respond to player mental health needs” (p. 1350). Ultimately, further research is warranted to understand mental health issues among elite athletes, to develop early intervention strategies, and to provide effective treatment.

**Help-seeking behaviours.** Research indicates that athletes prefer seeking psychological help from a sport psychologist, as opposed to other helping professionals. Maniar et al. (2001) found that student athletes prefer sport titled professionals (e.g., sport psychologist) as opposed to counsellors and clinical psychologists. Furthermore, Broughton and Neyer (2001) found that counselling relationships with student athletes are enhanced when the counsellor is knowledgeable about sports. Thus, research consistently finds that athletes prefer helping professionals with sports knowledge (Gulliver, Griffiths, & Christensen, 2012; Lopez & Levey, 2013; Maniar et al., 2001). However, Martin (2005) suggests that to reduce stigma the word “psychologist” should be avoided in the titles of professionals working with athletes.

The preferences of athletes are significant. Watson (2005) found that student athletes have less positive attitudes toward seeking help than their non-athlete peers, and they also have greater expectations that their counsellor will be knowledgeable and well-trained. Furthermore, Gulliver, Griffiths, and Christensen (2012) found that the most significant barrier to help-seeking among elite youth athletes is stigma; although mental health illiteracy and negative past experiences with helping professionals were also

identified as barriers. To mitigate these barriers, Maniar et al. (2001) suggest providing athletes with mental health education to reduce stigma. Additionally, mental health providers were identified as potential facilitators to help-seeking. Specifically, an existing, positive relationship between the mental health worker and the athlete fosters help-seeking (Gulliver, Griffiths, & Christensen, 2012). Support from others, particularly the coach, was also identified as a facilitator (Gulliver, Griffiths, & Christensen, 2012).

**Vignette.** The physical, psychological, and social realities of elite youth sport represent a complex set of factors that influence an elite athlete's lived experience. The factors are inextricably intertwined. Consider a hypothetical young athlete playing at the highest level of a sport that may lead to wealth and fame. The young athlete suffers an injury at a career stage in which professional drafts are taking place. The player experiences significant physical pain and is further distressed by being forced to miss playing during a time when not participating puts the athlete's future in jeopardy. The injury requires surgery and pain management medication. The athlete does not engage in the proper rehabilitation (injury neglect) and believes in toughing it through. The injury negatively impacts school attendance and performance. The athlete's coaches, parents, and peers encourage the athlete to return quickly. Unfortunately, when returning to play, the athlete is unable to perform at the same level as prior to the injury. In fact, the athlete's play begins to decline leading to an early and unexpected end to a career in sport.

The athlete sustained a significant injury during a developmental period in life. The injury had undeniable physical, psychological, and social consequences. When an athlete is in a position akin to the vignette presented it may contribute to negative mental

health outcomes. It is important for athletes dealing with such challenges to have access to resources and to get help. Thus, elite youth athletes, although less willing to seek help for psychological concerns, are in need.

**Summary.** The description of elite youth athletes provided highlights the obstacles they face. Elite athletes are a demographic with unique threats to their well-being that may be exaggerated during the developmental years of adolescence. Canadian junior hockey players are a subpopulation of this demographic. They experience these and other challenges during the transition from youth sport to the junior ranks (Bruner, Munroe-Chandler, & Spink, 2008).

### **Junior Hockey Players**

Junior hockey players in Canada, as elite youth athletes, manage the demands and face the challenges outlined. However, junior hockey players are a distinct population among youth athletes because of the cultural context within which they exist, the success of Canadian junior hockey leagues in the production of collegiate and professional hockey players, and many other factors. Thus, it is necessary to detail these factors and describe the context of junior hockey in Canada.

**Junior hockey in Canada.** In Canada, there are two top tier junior hockey leagues that produce world-class talent. The Canadian Hockey League (CHL) is the apex of junior hockey and is a highly publicized, successful sporting league that includes 60 teams participating in three distinct associate leagues: The Western Hockey League (WHL), The Ontario Hockey League (OHL), and The Quebec Major Junior Hockey League (QMJHL). The Canadian Junior Hockey League (CJHL) is considered the next best league (as evidenced by fewer players being drafted into the National Hockey

League [NHL] as compared to the CHL) and includes 10 leagues across Canada. Players in the CHL and CJHL can be between the ages of 15 and 21, although most are between 16 and 20.

The CHL is the top producer of NHL players in the world, whereas the CJHL is a top producer of National Collegiate Athletic Association (NCAA) hockey players (Curtis & Ennis, 1988). Many CHL and CJHL players pursue the professional ranks in semi-professional leagues in North America and professional leagues across the world, although fewer than 5% will have long-term careers in the NHL (Campbell & Parcels, 2013). Each year, when the season begins anew, thousands of young Canadian hockey players relocate to pursue a junior hockey career with the hope of parlaying junior success into an academic scholarship or a professional career (Olver, 1991).

**Research on junior hockey players.** Canadian junior hockey players are significantly understudied in comparison to NCAA athletes in the USA. This is understandable given the number of NCAA sports and post-secondary institutions in the USA. Nevertheless, research on junior hockey players is scant (Allain, 2013). Furthermore, the CHL has been described as a closed community that restricts access to its players and personnel (Allain, 2013); researchers have consistently reported difficulty gaining access to CHL players (Allain, 2013; Bruner et al., 2008; Dubé, Schinke, Hancock, & Dubuc, 2007; McCoy, 2015). However, research on Canadian junior hockey players does exist. Curtis and Ennis (1988) investigated junior hockey players' career transitions and made two important findings relevant to the challenges these athletes face: 50% of junior hockey players had a difficult experience transitioning out of hockey and 15% identified ending junior hockey as a significant loss. The findings of Curtis and

Ennis (1988) regarding junior hockey players' transition experiences have been expounded upon in subsequent qualitative research.

**Qualitative research on the junior hockey experience.** The junior hockey experience has elicited attention from researchers, albeit sporadically, for over 30 years. In 1991, Desjardins completed an in-depth investigation of the junior hockey experience and the challenges associated with the transition from junior hockey to a university career. In 2008, similar research was conducted by Bruner et al. (2008) using a phenomenological perspective to explore the junior experience. Most recently, McCoy (2015) used a qualitative research design to investigate the transition experience of WHL players who were ending their junior careers. This research will be discussed in more detail and striking similarities identified.

Desjardins (1991) provided a comprehensive understanding of the junior hockey experience, including an exhaustive list of the challenges junior hockey players face, as well as recommendations to help them navigate the challenges and cope with the demands. For 17 of the 19 issues outlined by Desjardins (1991), it was recommended that counselling, a sport psychologist, or some form of psychological services be utilized. The challenges described by Desjardins (1991) are akin to those identified by Bruner et al. (2008) and McCoy (2015).

Bruner et al. (2008) utilized a phenomenological perspective to gain an understanding of the athletes' lived experience while transitioning into the OHL. Two themes emerged from athlete interviews. First, athletes described challenges they faced regarding on-ice performance. That is, "(a) readiness for competition, (b) demonstrating competence, (c) earning playing time, (d) evaluation of performance, (e) comments from

coaches” (Bruner et al., 2008, p. 243). Second, athletes expressed positive and negative experiences in their personal lives, generally relating to interpersonal relationships and personal development. Moreover, athletes described “(a) the role of teammates, (b) billets, (c) player trades, and (d) personal development” (Bruner et al., 2008, p. 245). Specifically, teammates were identified as a significant source of support, billets were described as both positive and negative dependent upon the stability of the family structure, player trades were identified as challenging, and all participants reported that they matured as a result of playing junior hockey (Bruner et al., 2008).

McCoy (2015) identified themes relating to the players’ career and transition experiences that were divided into three domains. The first included athletic career experiences: “precariousness of ice time, frustration regarding role constraints, being at the mercy of the business, navigating different coaching styles, damaged confidence, a culture of silence, an emotional rollercoaster, personal development” (McCoy, 2015, p. 55). The second domain included factors facilitating athletic career transitions: “renewed hope in unexpected trades, social support, post-retirement engagement, the CHL scholarship program” (McCoy, 2015, p. 55). The third domain included factors that hindered athletic career transitions: “structure of the CHL, facing unmet expectations, post-retirement injury treatment and rehabilitation, education challenges, lack of transitional planning and support” (McCoy, 2015, p. 55). McCoy (2015) highlights the fact that the themes emerging from her research aligned with those identified by Bruner et al. (2008).

It is important to note that McCoy’s (2015) research was limited to 6 participants who were recruited with the help of a family member who acted as an intermediary.

Furthermore, none of the participants had been drafted to the NHL, all were pursuing a university education rather than a professional career, and three had cascaded down from the CHL to the CJHL in the final year of their junior career. These circumstances may have significantly influenced the athletes' perceptions and retirement experiences, thereby limiting the generalizability of the findings.

The qualitative research conducted by Desjardins (1991), Bruner et al. (2008), and McCoy (2015) provides insight into the demands and challenges of the junior hockey experience. It is important to reiterate that there are many benefits associated with participating in junior hockey; however, the focus of the current literature review is on the demands and challenges, and their influence on well-being. Nevertheless, it is noteworthy that the researchers unanimously recommended increased psychological support be made available for Canadian junior hockey players (Bruner et al., 2008; Desjardins, 1991; McCoy, 2015; Robinson & Bernes, 2004)

**Junior hockey league coaches and sport psychology.** To date, Robinson (2003) is the only available research exploring the use of psychological services in junior hockey. Robinson investigated the collaboration and referral process between AJHL coaches and psychologists by conducting semi-structured interviews with 13 coaches from the AJHL. Robinson found that the majority of AJHL coaches believe access to psychological services is important, although few utilized those services. This led Robinson and Bernes (2004) to recommend that increased psychological resources be made available for AJHL players. No research is available to ascertain whether this recommendation was acted upon. The current research hopes to build upon the recommendations made by Robinson and Bernes by giving Canadian junior hockey

players a platform to express their attitudes toward seeking psychological help and indicate whether they use sport psychology.

**Popularity.** Junior hockey in Canada appears on national television, is the subject of novels, and is reported in an unknowable number of newspaper articles. The World Junior Championship, which takes place each year beginning on Boxing Day, is part of Christmas tradition for many Canadian families. The tournament features the best junior hockey players in Canada, and around the world, and receives a significant amount of media attention, which raises the prominence of all junior hockey players. Books such as *The making of champions: Life in Canada's Junior A leagues* and *Hockey Canada: Thirty Years of Going for Gold at the World Juniors* illustrate the mass appeal of junior hockey in Canada and provide an indication of the emphasis on greatness (Joyce, 2012; Olver, 1991)

**Substance misuse.** There is a dearth of research investigating substance use among junior hockey players. However, WHL players in Desjardins' (1991) research endorsed using alcohol to cope with emotional pain, and Robinson (2003) details how team members coped with the loss of a teammate by drinking copious amounts of alcohol. Together, Desjardins (1991) and Robinson (2003) provide evidence of junior hockey players using alcohol to cope with emotional difficulties.

A season-long case study by Roy and Camiré (2017) indicated a culture in hockey that supports, and at times facilitates, drinking. However, the generalizability of these findings is limited by the fact that researchers interviewed only five members of one team (three coaches and two players). Further insight into the substance misuse of junior hockey players can be found in autobiographical accounts of former players. For



example, the autobiography of former NHL star Theoren Fleury, *Playing with Fire*, provides one story of significant substance abuse that began while playing junior hockey; however, this account may be considered a worst-case scenario (Fleury & McLellan, 2009). Nevertheless, although research is limited, there is some evidence suggesting a culture of drinking and substance misuse exists in junior hockey.

**Mental health.** To date, there is no research on the mental health of Canadian junior hockey players. However, in recent years, the sudden deaths of two Canadian junior hockey players, 19-year-old André Parker and 20-year-old Terry Trafford, have brought attention to mental health in junior hockey (Burr, 2015; Campbell, 2014). Parker and Trafford played junior hockey in the Saskatchewan Junior Hockey League (SJHL) and OHL, respectively, and both struggled with mental health issues before they tragically took their own lives. The death of Trafford prompted the OHL to partner with the Canadian Mental Health Association (CMHA) to develop the *Talk Today* program. *Talk Today* is a mental health initiative developed by the Canadian Mental Health Association that consists of mental health training and community events, as well as a mental health liaison and mental health champion for each team.

Mental health in junior hockey has also received media attention as a result of the outstanding work of Myles Mattilla and Garrett Mcfadden. Mattilla, an 18-year-old player from the Kootenay International Junior Hockey League (KIJHL) in British Columbia, was moved to take action following the tragic death of former NHLer Rick Rypien, who struggled with depression before committing suicide. Mattilla's work to raise mental health awareness has received national attention, including a tweet from

Prime Minister Justin Trudeau. Mattilla now serves as an ambassador for mental health awareness.

Similarly, Mcfadden, captain of the OHL Geulph Storm, was motivated to support mental health following the suicide of a close friend who was also an aspiring young hockey player (Howald, 2017). Mcfadden has since created “Mcfadden’s Movement” which is a mental health campaign to support the mental health of athletes (Howald, 2017). In 2017, Mcfadden received the OHL’s humanitarian of the year award for his work to raise mental health awareness (Howald, 2017). Mcfadden and Mattilla provide two great examples of young hockey players taking it upon themselves to raise mental health awareness and reduce stigma among athletes.

**Summary.** Over a decade ago, this writer was among the young hockey players leaving home to pursue a junior hockey career. The experiences described by Desjardins (1991) and supported by Robinson (2003) certainly align with this writer’s experience while attempting to survive and thrive in junior hockey. As was first explained by Desjardins (1991), and reiterated by Robinson (2003), Bruner et al., (2008), and McCoy (2015), one way to mitigate the challenges junior hockey players face is through the provision of psychological services to support a healthy sporting experience and optimal mental health.

### **Sport Psychology**

Sport psychology consists of a burgeoning academic discipline and the growing field of applied sport psychology. Academics and practitioners who identify themselves as sport psychologists engage in academic research and the provision of psychological services. Simply put, “Sport and exercise are integral to our lives and deserve no less

serious attention from health care professionals than our work and relationships” (Murphy, 1995, p. 1). The following will provide a brief overview of sport psychology research and provision, and describe the current landscape of sport psychology provision in Canada.

**Research.** Research within sport psychology is generally concerned with investigating performance and understanding how sport participation influences an individual’s mental and physical well-being (Weinberg & Gould, 2010). A plethora of research exists examining everything from how to achieve optimal performance (Swann, Crust, & Vella, 2017) to the efficacy of superstitious behaviours (Wakefield, Shipherd, & Lee, 2017). As is highlighted in the current paper, a significant amount of research has been dedicated to investigating attitudes toward sport psychology among athletes, coaches, and trainers (Martin, 2005). The scope of sport psychology research and provision continues to expand and evolve.

**Applied sport psychology.** In applied sport psychology, practitioners help athletes in a variety of ways such as improving performance (e.g., self-talk, goal-setting, imagery), coping with injuries, and managing personal challenges relating to mental health (Weinberg & Gould, 2010). Applied sport psychology has often been conceptualized as consisting of two separate domains. In one domain, sport psychologists are concerned with evaluating and optimizing performance; in the other, sport psychologists are concerned with improving the mental health of athletes in sport and in life (Murphy, 1995). Nevertheless, Murphy (1995) professed that applied sport psychology is best done holistically by helping athletes’ performance and achievement, as well as by facilitating personal development and supporting mental health.

The current research conceptualizes sport psychology holistically, with both domains existing under the umbrella of sport psychology research and provision. Sport psychologists with “appropriate clinical and/or counselling training as well as knowledge and/or experience in sport” may help athletes with both mental health and performance (Robinson, 2003, p. 6). Moreover, Robinson (2003) provides a full description of the services a qualified sport psychologist can provide:

The proactive and preventative services that could be offered to teams or with individual players include mental training that enhances performance (e.g., distraction control, playing in the zone, etc.), psychoeducation that involves learning skills for academic success and career development (e.g., time management, study skills, etc.), career counselling/life planning and transitional adjustment for players leaving junior hockey (e.g., transferring strengths learned in hockey to other occupations, etc.), dealing with emotional, social, and personal issues (e.g., alcohol and drug abuse, performance anxiety, etc.), as well as counselling to deal with crisis situations that do arise (e.g., deaths, suicidal thoughts, bus accidents, etc.). (p.134)

The comprehensive services a sport psychologist can provide outlined by Robinson (2003) is supported by Moore and Bonagura (2017) which highlights that sport psychologists can help athletes with athletic performance, personal development, and psychological well-being.

**Sport psychology in Canada.** In Canada, sport psychology is an emerging profession. The Canadian Sport Psychology Association (CPSA) is the most reputable association devoted to the provision of applied sport psychology. The CPSA includes

student, academic, associate, and professional members. To become a professional member, a comprehensive application process that assesses academic and applied experience is necessary. Moreover, professional members of CPSA must have a graduate level education, extensive experience in sport, and training in counselling.

In Canada, psychologist is a provincially regulated professional title. Therefore, to be a sport psychologist one must be a registered psychologist. Moreover, it is fraudulent to use the title sport psychologist without a license to practice psychology. It is important for athletes, coaches, and league officials to follow appropriate due diligence when selecting a sport psychologist.

**Summary.** The comprehensive services a sport psychologist can provide, detailed by Robinson (2003), highlights the utility and importance of the provision of sport psychology services. What's more, research has found that athletes prefer sport titled psychological professionals and psychological professionals with a knowledge of sport (Broughton & Neyer, 2001; Maniar et al., 2001). Thus, research indicates that sport psychologists may be in a unique position to help athletes with sport related and non-sporting issues. Although there are demonstrated advantages to working with sport psychologists, it is important to understand athletes' attitudes toward working with these individuals to facilitate and enable enriched experiences. To that point, Robinson (2003) encouraged future research investigating Canadian junior hockey players' perceptions of working with sport psychologists. Furthermore, Martin (2005) states that understanding how individual characteristics influence help-seeking tendencies is a significant consideration in the attempt to improve sport psychology provision.

## **Attitudes Toward Sport Psychology**

Fletcher and Hanton (2003) stated that performers will often consult with a sport psychologist to help them cope with a wide range of stressors, which may stem from physical, psychological, or social sources. Unfortunately, extant literature has shown that, although using sport psychology has been found to be beneficial, it is underutilized by elite youth athletes (Martin, 2005; Robinson, 2003). In 1994, Scott Martin and his colleagues began work on an instrument to gain a better understanding of athletes' attitudes toward sport psychology and seeking psychological help. In many subsequent studies, Martin and colleagues refined the instrument to establish a robust and reliable assessment tool, namely: the Sport Psychology Attitudes-Revised (SPA-R) questionnaire.

Martin collaborated with researchers from around the world including but not limited to New Zealand, Ireland, and England to investigate cultural differences (Anderson, Hodge, Lavalley, & Martin, 2004; Lavalley, Jennings, Anderson, & Martin, 2005). The instrument was then modified to investigate the attitudes toward sport psychology of coaches, league officials, and trainers (Hamson-Utley, Martin, & Walters, 2008; Wilson, Gilbert, Gilbert, & Sailor, 2009; Zakrajsek, Martin, & Zizzi, 2011; Zakrajsek & Zizzi, 2007). The following will detail the development of the instrument, the individual differences that exist among athletes in regard to attitudes toward sport psychology, and the use of the instrument in the current research.

**Sport psychology attitudes questionnaire.** The sport psychology attitudes questionnaire was originally developed by Wrisberg and Martin (1994) and then later refined by Martin, Wrisberg, Bietel, and Lounsbury (1997) to assess athletes' attitudes toward sport psychology. The questions included were generated by a panel of experts

who had investigated previous research on attitudes toward sport psychology and considered the Attitudes toward Seeking Professional Psychological Help (ATSPPH) questionnaire. The questionnaire was designed to probe five subconstructs relating to attitudes toward sport psychology (Martin et al., 1997). Specifically, stigma toward sport psychology, recognition of the need to utilize sport psychology, openness/willingness to try sport psychology, confidence in sport psychology, and cultural preference in regard to the sport psychology consultant (Martin et al., 1997).

Since then, Martin, Kellmann, Lavallee, and Page (2002) have revised the questionnaire using exploratory and confirmatory factor analyses to investigate four subconstructs. The four subconstructs are stigma tolerance (ST), personal openness (PO), confidence in sport psychology (CO), and cultural preference for sport psychology consultants (CP). The Cronbach's coefficient alpha, which assesses internal consistency for each subconstruct, is .84 (ST), .62 (PO), .82 (CO), .60 (CP) (Martin et al., 2002). Test re-test scores were also determined: .90 (ST), .83 (CO), .71 (PO), .70 (CP) (Martin et al., 2002). Although the internal consistency estimates for the PO and CP did not reach the generally recommended .70, Martin et al. (2002) state they are sufficient as each subconstruct has a small number of items, has good test re-test reliability, and the model has a robust factor structure (Anderson et al., 2004).

The SPA-R instructs participants to indicate their level of agreement by providing responses on a 7-point Likert scale ranging from (1) strongly disagree to (7) strongly agree, with statements associated with each of the four subconstructs. The mean of each subconstruct is calculated by summing the scores and dividing by the number of items. Scores higher than a mean of 5 on stigma tolerance indicate a stigma toward working

with a sport psychologist; the higher the score on confidence in sport psychology consultation, the more the confidence in the efficacy of sport psychology provision; higher scores on personal openness suggest an unwillingness to share personal information with a sport psychologist; and the higher the score on cultural preference the more one prefers a sport psychologist belonging to one's own nationality, ethnicity, culture, or race (Martin et al., 2002).

**Individual differences.** The sport psychology questionnaire has identified individual differences—namely gender, nationality, and sport type—among elite athletes in regard to their attitudes toward sport psychology (Hamberger & Iso-Ahola, 2006). Moreover, Martin et al. (1997) found that women are more open, and express less stigma, than males in regard to their attitudes toward sport psychology. This finding is reinforced in research by Anderson et al., (2004) and Martin (2005) that also found women are more open to seeking psychological help. Part of the reason young boys and men may avoid seeking help is the commonly held belief that athletes should accept pain and physical risk (Nixon, 1996). Ultimately, research clearly shows that male athletes are more resistant to seeking psychological help than female athletes (Anderson et al., 2004; Martin, 2005).

In addition, research has identified individual differences that influence attitudes toward sport psychology. That is, research has found that experience with sport psychology positively influences attitudes toward sport psychology (Anderson, et al., 2004; Martin, 2005). Furthermore, Martin (2005) found that team sport athletes exhibit less favorable attitudes than individual sport athletes toward sport psychologists. The masculine culture of certain sports has been associated with increased stigma toward



sport psychology. For example, athletes competing in contact sports (e.g., football) stigmatized utilizing psychology services more than athletes competing in non-contact sports (e.g., tennis) (Martin, Zakrajsek, & Wrisberg, 2012). Martin, Zakrajsek, & Wrisberg (2012), state that the masculine socialization in contact sport, combined with a strong athletic identity, negatively influences athletes' attitudes toward seeking psychological help. Furthermore, athletes from the United States are "more likely to stigmatize services, less willing to seek consultation, and less confident in consulting compared to athletes from the United Kingdom, Germany, and New Zealand" (Martin, Zakrajsek, & Wrisberg, 2012, p. 6).

In sum, cultural and societal influences, as well as gender- and sport-specific differences, consistently influence attitudes toward sport psychology. Overall, research has generally found that elite youth athletes have positive attitudes toward sport psychology (Anderson et al., 2004; Lavalley et al., 2005; Martin, 2005). Nevertheless, Lavalley et al. (2005) and Martin (2005) have called for more research to ascertain how personal, cultural, sport, and national differences influence attitudes toward sport psychology.

**Summary.** The latest version of the SPA-R has been used in several studies to investigate thousands of athletes' attitudes toward sport psychology across a number of sports and in many different countries (Anderson et al., 2004; Lavalley et al., 2005; Martin et al., 2002; Martin et al., 2005). However, a comprehensive search of the literature failed to uncover any use of the SPA-R to assess the attitudes of Canadian junior hockey players. Therefore, the SPA-R will be used to assess Canadian junior hockey players' attitudes toward sport psychology and seeking psychological assistance.

## Mindset

The concept that an internal mindset influences thought, affect, and behaviour was popularized by Dr. Carol Dweck in her book *Mindset: The new psychology of success* (2008). Long before the book's release the concept had been investigated and refined in numerous studies over many years. To understand how one's mindset influences thought, affect, and behaviour it is necessary to outline the theoretical foundation of the concept. The following will describe the theoretical foundation of mindset, define key terms, provide research evidence that supports this concept, and highlight why mindset is important to investigate in relation to attitudes toward sport psychology.

**Theoretical foundation.** Bandura (1986) states that social cognitive theory is rooted in an agentic perspective which postulates that human beings are capable of self-regulation, self-reflection, and intentional action. Moreover, in addition to having the capacity to intentionally engage in activities, they can anticipate the outcome of those activities, and self-regulate thoughts, emotions, and behaviours associated with them. Based upon social-cognitive theory and the notion that human beings are agentic creatures, Dweck and Leggett (1988) uncovered two major patterns of behaviour: "helpless-oriented" and "mastery-oriented," described as maladaptive and adaptive respectively (Dweck & Leggett, 1988). The helpless pattern is characterized by poor performance and avoiding challenges, whereas the mastery pattern is characterized by strong performance and embracing challenges (Dweck & Leggett, 1988). Interestingly, Dweck and Leggett (1988) found that ability and intelligence did not entirely account for

the two patterns; on the contrary, in some cases, even the most talented and/or intelligent individuals displayed the helpless orientation.

To understand why talented and intelligent individuals would adopt maladaptive behaviour patterns, Dweck and her colleagues began to investigate the underlying psychological processes that may be driving the behaviour (Dweck & Leggett, 1988). In countless studies, Dweck (2008) found that people have implicit theories (i.e., core beliefs) about the nature of ability and intelligence. Moreover, Dweck (2008) professes that people hold relatively stable core beliefs about the nature of intelligence and ability and these beliefs have an influence on the way a person thinks, feels, and behaves. The two implicit theories Dweck (2008) identified are the incremental theory of intelligence (growth mindset) and entity theory of intelligence (fixed mindset).

**Incremental theory of intelligence.** The incremental theory of intelligence is colloquially referred to as a growth mindset. People with a growth mindset “believe that intelligence is a malleable, increasable, controllable quality” (Dweck & Leggett 1988, p. 262) A growth mindset is associated with adaptive motivational patterns (i.e., mastery-oriented).

**Entity theory of intelligence.** The entity theory of intelligence is colloquially referred to as a fixed mindset. People with a fixed mindset “believe that intelligence is a fixed or uncontrollable trait” (Dweck & Leggett, 1988, p. 262). A fixed mindset is associated with maladaptive motivational patterns (i.e., helpless-oriented).

Dweck and Leggett (1988) point out, these patterns exist with children and adults, in a laboratory setting and in natural settings, and that these implicit theories may be at the root of adaptive and maladaptive patterns of behavior. Dweck and Leggett (1988)

succinctly state “the central aspect of our model: its depiction of the manner in which underlying personality variables can translate into dynamic motivational processes to produce major patterns of cognition, affect, and behaviour” (p. 271). Furthermore, “thinking in terms of relatively static, reified entities versus thinking in terms of dynamic, malleable processes can be seen as two alternative ways of conceptualizing many phenomena, with science and culture perhaps fostering particular views of particular phenomena at certain times” (Dweck & Leggett, 1988, p. 267).

**Mindset research.** An abundance of research has investigated the role mindset plays in an academic setting. A longitudinal study that spanned two years found that students with a growth mindset were more likely to be resilient and experienced higher levels of academic achievement as compared to their fixed mindset peers (Blackwell, Trzesniewski, & Dweck, 2007). Mindset was also shown to influence test performance: fixed mindset students were found to experience higher levels of worry and engage in less practice time than their growth mindset peers (Curry, Fonseca, Zahn, & Elliott, 2008). Finally, a meta-analysis found a positive correlation between a growth mindset and improved self-regulation and achievement (Burnette, O’Boyle, VanEpps, Pollack, & Finkel, 2013). Research clearly and repeatedly shows that a growth mindset is an adaptive and desirable implicit theory.

**Mindset in sport.** Dweck’s popular book *Mindset* (2008) provides many anecdotal stories about the impact of mindset on an athletic career. Dweck points to Michael Jordan as a shining example of how a growth mindset can facilitate continual growth in sport. Conversely, the story of Billy Beane depicts a cautionary tale of an athlete with superstar talent who is limited by a fixed mindset. These anecdotal stories

make intuitive sense: Dweck (2008) explains that people with a growth mindset find success in learning and improving, whereas people with a fixed mindset believe ability is endowed and therefore learning and striving need not be necessary.

The anecdotal stories presented by Dweck (2008) are supported by MacNamara and Collins (2015) who found that a growth mindset is adaptive as it plays a role in the success and resilience of elite athletes. In addition, a growth mindset has been shown to be associated with effective coping in sport (Ruiselová & Prokopčáková, 2005). Conversely, a fixed mindset is maladaptive as it is associated with increased competition anxiety and amotivation (Biddle et al., 2003; Gardner, Vella, and Magee, 2015). Furthermore, Ommundsen (2001) found that a growth mindset is associated with increased satisfaction in physical education, whereas a fixed mindset is associated with increased anxiety and decreased enjoyment in physical education. Thus, as it has been shown in numerous studies in the academic domain, and more recently in sport, a growth mindset is proven to be an adaptive mindset.

**Nature of athletic ability questionnaire.** To assess the implicit theories of junior hockey players it is important to use an assessment tool that is reliable and valid. The Conceptions of the Nature of Athletic Ability Questionnaire-2 (CNAAQ-2) was developed specifically to be used with athletes to assess theories of ability. The CNAAQ-2 has been shown to be a robust and reliable tool cross-culturally and with a wide range of ages (Biddle et al., 2003). A comprehensive review of the literature by Li and Lee (2004) found that conceptions of ability significantly influence behaviour in the sport domain. Moreover, Li and Lee (2004) found that, in physical activity, individuals with a fixed mindset are more likely to express maladaptive thoughts, feelings, and behaviour.

The CNAAQ-2 includes 12 questions that assess four subscales associated with implicit beliefs regarding the nature of learning and ability (Biddle et al., 2003). The two subscales associated with a growth mindset are the learning and improvement subscales, whereas the two subscales associated with a fixed mindset are the gift and stable subscales (Biddle et al., 2003). Participants are provided with a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Biddle et al. (2003) confirm that the CNAAQ-2 produces valid and reliable estimates of entity and incremental beliefs. In addition, research by Gardner, Vella, and Magee (2015) produced Cronbach's alpha of .87 for entity beliefs and .83 for incremental beliefs. Thus, the CNAAQ-2 is proven to be a reliable tool and therefore will be used in the current research.

**Summary.** The importance and far-reaching implications of an individual's mindset are undeniable. It is abundantly clear that a growth mindset is adaptive in achievement settings such as school and sport. However, irrespective of intelligence and natural ability, many people adopt a fixed mindset which contributes to maladaptive thought, affect, and behaviour. To date, there is no research investigating the correlational relationship between mindset and attitudes toward sport psychology and seeking psychological assistance. Thus, the current research intends to ascertain the relationship between an individuals' mindset and their attitudes toward sport psychology and help-seeking.

### **Chapter 3: Methodology**

In the current research, closed-ended questions were used to ascertain demographic information and information pertaining to sport experience, experience with sport psychology, willingness to work with a sport psychologist, preferences for a psychological professional, and aspirations. The SPA-R and the CNAAQ-2 were used to assess WHL, AJHL, and BCHL players' attitudes toward sport psychology and mindset respectively. Together, the results from the closed-ended questions and questionnaires inform a comprehensive understanding of junior hockey players' attitudes toward sport psychology and their mindset. This chapter outlines the recruitment process, the participants, the procedures, the instruments, and the methods of analysis.

#### **Recruitment**

Initially, the intention was to invite all WHL, AJHL, and BCHL teams to participate in the current research. To do so, the commissioners of the leagues were contacted via email (Appendix A). The AJHL commissioner was directly accessible as this writer was able to send him an email to which he promptly responded and granted approval. This writer sent the same email to the BCHL commissioner, however no response was received. Subsequently, this writer contacted the BCHL communications director via phone. Over the following month, this writer and the communications director were in dialogue via email. Ultimately, this writer was informed by the communications director that the BCHL granted permission to contact member teams.

After approval had been granted by AJHL and BCHL league officials, head coaches of each team were contacted via email and asked to participate (Appendix B). Emails were sent to all 33 teams in both leagues, however only three teams responded. It

is important to note that this communication occurred in the months of June and July, which are during the off-season. Nevertheless, it was necessary to contact coaches by phone. In every case that this writer was able to contact a head coach by phone, and discuss the nature of the research, approval was granted to include players from that team. In certain cases, it was not possible to reach the head coach. In these cases, an assistant coach was contacted. Ultimately, all 16 teams in the AJHL and 17 teams in the BCHL agreed to participate in the study.

The WHL commissioner was not directly accessible via email, therefore it was necessary to communicate with other individuals within the WHL. This writer and members of the WHL were in dialogue over a three-month period before this writer was informed that, at that particular time, approval was not granted to reach out to member teams.

This writer then contacted a family friend who is a former WHL player and well-respected figure in Canadian hockey. The former WHL player agreed to act as a liaison and was able to connect with the league commissioner to discuss the nature of the research. The commissioner granted approval for the liaison to reach out to WHL member teams of the liaison's choice. Ultimately, three teams were contacted and agreed to participate.

Encountering barriers recruiting Canadian junior hockey players for research is a consistent theme with this population. Specifically, Dubé et al. (2007), Bruner et al. (2008), Allain (2013), and McCoy (2015) have documented the challenges associated with conducting research with Canadian junior hockey players. Despite these hurdles, all teams in the AJHL and BCHL participated in the current research. The WHL was more



difficult to connect with and without the efforts of a liaison would not have been included in this research. It may be more difficult to gain access to WHL players because their schedule is more demanding than AJHL and BCHL players. Moreover, WHL players play more games (68) than players in the AJHL (60) and BCHL (58), and have considerably more demanding travel schedules due to the geographic size of the league. The obstacles encountered in the recruitment process indicate that researchers with personal experience in Canadian junior hockey leagues, or connections to league officials, have a distinct advantage in gaining access to the leagues for research purposes.

### **Participants**

Participants are Canadian junior hockey players from the AJHL, BCHL, and WHL. The leagues were chosen because they are the premier junior hockey leagues in Western Canada. For logistical reasons, Western Canadian leagues, as opposed to teams outside the geographic region of Western Canada, were chosen. Players under the age of 18 were not asked to participate due to an inability to gain consent from parents and anticipation that league officials would be reluctant to allow minors to assent to participate. Moreover, to increase the likelihood of receiving approval from league officials to contact member teams, minors were not included in the research.

Thus, participant ages range from 18 to 20 years old. The intention was to ask all WHL (22), AJHL (16) and BCHL (17) teams to participate in the study. In the end, 16 teams from the AJHL, 17 teams from the BCHL, and three teams from the WHL were included, resulting in a total of 36 out of 55 teams. In junior hockey, rosters are ever-changing, and therefore it is impossible to determine the exact number of players between the ages of 18 and 21 who were invited to participate. On each team, there are

approximately 15 players over the age of 18. Therefore, it is fair to state that approximately 540 players were invited to participate in the current research.

One hundred and thirty-eight participants completed the consent process, one participant did not consent and therefore did not have access to the study. Participants that consented to participate, but missed more than three questions in either of the questionnaires, were not included in the statistical analysis. Thus, of the 137 who consented, 114 completed the study and are included in the statistical analysis.

### **Procedure**

An email with a description of the study and a link to participate was sent to a member within the team, that email was then forwarded to the players (Appendix C). The email explained the purpose of the study and outlined ethical considerations. They were given the option to click a link that allowed them to participate and were directed to an online consent form. Access to participate in the study was only permitted if the player granted consent (Appendix D). The website [www.surveymonkey.com](http://www.surveymonkey.com) was used to host the questionnaires. The average completion time was approximately eight minutes and 15 seconds.

A description of the role of a sport psychologist was presented before participants accessed questions (Appendix E). The description was provided to clarify the role of a sport psychologist and to ensure participants had a consistent conceptualization of sport psychologists. The description provided was: “Sport Psychologists are Psychologists with expertise in sport. Sport Psychologists may help athletes improve performance, cope with sport-related issues, and manage their mental health. For example, a Sport Psychologist may help an athlete reduce performance anxiety, improve visualization skills, cope with

living in a new city, cope with depression etc. Thus, sport psychologists may help athletes with sport-related and personal issues, to improve performance and well-being.” This description was informed by Murphy (1995), Robinson (2003), Weinberg and Gould (2010), and Moore and Bonagura (2017). Upon completion, a description of the study and a thank you for participating was provided (Appendix F).

### **Instruments**

In the current research, closed-ended questions were used to ascertain demographic information and information pertaining to sport experience, experience with sport psychology, willingness to use sport psychology, preferences for a psychological professional, and aspirations (Appendix G).

The Sport Psychology Attitudes-Revised (SPA-R) questionnaire was used to assess attitudes toward sport psychology (Appendix H). The SPA-R consists of 25 questions that assess four subconstructs: stigma tolerance (7 questions), confidence in sport psychology (8 questions), cultural preference (4 questions), and personal openness (6 questions). Participants provide responses on a 7-point Likert scale: strongly disagree (1), disagree (2), moderately disagree (3), neutral (4), moderately agree (5), agree (6), strongly agree (7). To calculate scores for each subconstruct, the sum of the responses is divided by the number of items in the respective subconstruct.

According to Martin (2005), higher scores on personal openness indicate an unwillingness to share personal information and work with a psychological professional. Scores higher than a mean of 5 on stigma tolerance indicate a stigma toward working with a sport psychologist. The higher the score on cultural preference, the more one prefers a sport psychologist belonging to his or her own nationality, ethnicity, culture, or

race. The higher the score on confidence in sport psychology consultation, the more confidence expressed in the efficacy of sport psychologist consultation.

The Conceptions of the Nature of Athletic Ability Questionnaire-2 (CNAAQ-2) was used to assess mindsets (Appendix I). The CNAAQ-2 consists of 12 questions that assess 4 first-order factors: learning, improvement, stable, and gift. Learning (3 questions) and improvement (3 questions) comprise the higher order factor: incremental beliefs (i.e., growth mindset). Stable (3 questions) and gift (3 questions) comprise the higher order factor: entity beliefs (i.e., fixed mindset). Participants provide responses on a 5-point Likert scale: strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5). To calculate scores for each higher order factor, the sum of the responses is divided by the number of items in the respective factor. A mean score higher than 3 indicates identification with the respective mindset; higher scores indicate increased identification.

### **Methods of Analysis**

The data was exported from Survey Monkey to IBM SPSS statistics 24 for analysis. Participants that missed three or more responses were removed from the dataset. The participants that randomly missed one to three responses were included in the analysis and the missing response was left blank. Descriptive statistics were calculated for all closed-ended questions pertaining to demographic information, experience with sport psychology, willingness to utilize sport psychology services, preferences for a psychological professional, and aspirations.

The means of the responses in each domain of the SPA-R and CNAAQ-2 were calculated. The means from the SPA-R provide information regarding Canadian junior

hockey players' personal openness, stigma toward working with a sport psychologist, cultural preference for a sport psychologist, and confidence in the efficacy of sport psychology consultation. The means from the CNAAQ-2 indicate the degree to which Canadian junior hockey players identify with a growth and fixed mindset.

One-tailed Spearman's rank correlation coefficient was utilized to assess the correlational relationship between a growth and fixed mindset, and attitudes toward sport psychology. Specifically, the correlational relationship between the constructs growth mindset and fixed mindset, and confidence in sport psychology, cultural preference, personal openness, and stigma toward sport psychology were assessed. A Spearman's rank correlation coefficient was selected because it is a nonparametric method and thus appropriate for analysis of Likert scale data.

A Mann-Whitney U test was performed to assess if a difference in attitudes toward sport psychology exists between participants who have experience with a sport psychologist and participants who have no experience. The Mann-Whitney U test was selected because it is a nonparametric method used for comparing two samples and is appropriate for analysis of Likert scale data.

A Kruskal-Wallis test was used to assess if a difference in attitudes toward sport psychology exists between AJHL, BCHL, and WHL players, and players of different ages. The Kruskal-Wallis test was selected because it is a nonparametric method used for comparing two or more samples and is appropriate for analysis of Likert scale data.

## Chapter 4: Results

In this chapter, the results obtained in the current study are presented. The results are separated into four parts. The first part includes demographic information that consists of sport experience, experience with a sport psychologist, willingness to work with a sport psychologist, preferences for a psychological professional, and aspirations. The second part presents the findings from the SPA-R. The third part presents the findings from the CNAAQ-2. The fourth part details the statistical analysis conducted. Together, the results provide answers to the four research questions posed.

### Part 1: Demographic Information

One hundred and thirty-eight participants completed the consent process, one participant did not consent and therefore did not have access to the study. Of the 137 who consented, 114 completed the study and are included in the statistical analysis. Participant ages ranged from 18 to 20 years old (Table 1). Participants were asked to indicate their race/ethnicity: 106 identified as Caucasian, one identified as African, two identified as Asian and Caucasian, two identified as Indigenous, one identified as Indigenous and Caucasian, and two identified their race/ethnicity as not listed.

Participants were asked to indicate the league they currently play in: 35 selected the AJHL, 64 selected the BCHL, and 15 selected the WHL (Table 2). Participants were asked to identify how many years they have played in their current league: 44 selected one year, 36 selected two years, 23 selected three years, 9 selected four years, and 2 selected five years (Table 3). Participants were asked if their team has a sport psychologist or mental coach: 31 selected “yes,” and 83 selected “no” (Table 4).

Participants were asked if they had been drafted to the NHL: eight selected “yes,” and 106 selected “no” (Table 5).

Table 1

*Age*

		Frequency	Percent
Valid	18	49	43.0
	19	40	35.1
	20	25	21.9
	Total	114	100.0

Table 2

*Current League*

		Frequency	Percent
Valid	AJHL	35	30.7
	BCHL	64	56.1
	WHL	15	13.2
	Total	114	100.0

Table 3

*Years Played in Current League*

		Frequency	Percent
Valid	1	44	38.6
	2	36	31.6
	3	23	20.2
	4	9	7.9
	5	2	1.8
	Total	114	100.0

Table 4

*Does Your Team Have a Sport Psychologist or Mental Coach?*

		Frequency	Percent
Valid	Yes	31	27.2
	No	83	72.8
	Total	114	100.0

Table 5

*Have You Been Drafted to the NHL?*

		Frequency	Percent
Valid	Yes	8	7.0
	No	106	93.0
	Total	114	100.0

**Aspirations.** Participants were asked if they plan to pursue a University education: 107 selected “yes,” and seven selected “no” (Table 6). Participants were asked if they plan to pursue a professional hockey career: 99 selected “yes,” and 15 selected “no” (Table 7).

Table 6

*Do You Plan to Pursue a University Education?*

		Frequency	Percent
Valid	Yes	107	93.9
	No	7	6.1
	Total	114	100.0



Table 7

*Do You Plan to Pursue a Professional Hockey Career?*

		Frequency	Percent
Valid	Yes	99	86.8
	No	15	13.2
	Total	114	100.0

**Experience with a sport psychologist.** Participants were asked if they have worked one-on-one with a sport psychologist: 37 selected “yes,” and 77 selected “no” (Table 8). Participants were asked if they have worked with a sport psychologist in a team setting: 72 selected “yes,” and 42 selected “no” (Table 9).

Table 8

*Have You Worked One-On-One With a Sport Psychologist?*

		Frequency	Percent
Valid	Yes	37	32.5
	No	77	67.5
	Total	114	100.0

Table 9

*Have You Worked With a Sport Psychologist in a Team Setting?*

		Frequency	Percent
Valid	Yes	72	63.2
	No	42	36.8
	Total	114	100.0

**Willingness to work with a sport psychologist.** Participants were asked if they would be willing to work with a sport psychologist: 107 selected “yes,” and seven selected “no” (Table 10). Participants were asked if they would be willing to work with a

team sport psychologist if one was provided: 104 selected “yes,” and nine selected “no.”

One participant did not answer (Table 11).

Table 10

*Would You be Willing to Work With a Sport Psychologist?*

		Frequency	Percent
Valid	Yes	107	93.9
	No	7	6.1
	Total	114	100.0

Table 11

*If Access to a Sport Psychologist Was Provided by Your Team, Would You Work With the Team Sport Psychologist?*

		Frequency	Percent
Valid	Yes	104	91.2
	No	9	7.9
	Total	113	99.1
Missing	System	1	.9
	Total	114	100.0

**Preference for a psychological professional.** Participants were provided with a list and asked to select who they would prefer to seek help from for psychological or personal issues (e.g., depression, anxiety, relationship issues): 30 selected a counsellor, 44 selected a sport psychologist, 15 selected a clinical psychologist, nine selected a medical doctor, and 16 selected a mental coach (Table 12). Participants were provided the same list and asked to select who they would prefer to seek help from for performance issues and/or improvement. Two selected a counsellor, 91 selected a sport

psychologist, two selected a clinical psychologist, five selected a medical doctor, and 14 selected a mental coach (Table 13).

Table 12

*Select Who You Would Prefer to Seek Help From for Psychological or Personal Issues (e.g. depression; anxiety; relationship issues)*

		Frequency	Percent
Valid	Counsellor	30	26.3
	Sport Psychologist	44	38.6
	Clinical Psychologist	15	13.2
	Medical Doctor	9	7.9
	Mental Coach	16	14.0
	Total	114	100.0

Table 13

*Select Who You Would Prefer to Seek Help From for Performance Issues and/or Improvement*

		Frequency	Percent
Valid	Counsellor	2	1.8
	Sport Psychologist	91	79.8
	Clinical Psychologist	2	1.8
	Medical Doctor	5	4.4
	Mental Coach	14	12.3
	Total	114	100.0

## **Part 2: Sport Psychology Attitudes—Revised**

**Personal openness.** The mean score 4.33 indicates an unwillingness to share personal information and seek psychological help. For example, 56.1% of participants agreed with the statement: “There are certain problems, which should not be discussed

outside one's immediate family.” Specifically, 13.2% selected moderately agree, 36.8% selected agree, and 6.1% selected strongly agree. The mean score for this question was 4.5 and the median was 5 (moderately agree).

**Stigma tolerance.** The mean score 2.61 indicates that junior hockey players do not express stigma toward working with a sport psychologist. For example, 92.1% of participants disagreed with the statement: “Having seen a sport psychology consultant is bad for an athlete's reputation.” Specifically, 9.6% selected moderately disagree, 57% selected disagree, and 25.4% selected strongly disagree. The mean score for this question was 2.00 and the median was 2 (disagree).

**Cultural preference.** The mean score 3.25 indicates that junior hockey players did not prefer a sport psychologist belonging to their own nationality, ethnicity, culture, or race. For example, 74.6% of participants disagreed with the statement: “I would be more comfortable with a sport psychology consultant if he/she were the same ethnicity, culture, or race as me.” Specifically, 11.4% selected moderately disagree, 40.4% selected disagree, and 22.8% selected strongly disagree. The mean score for this question was 2.5 and the median was 2 (disagree).

**Confidence in sport psychology.** The mean score 5.08 indicates that junior hockey players are confident in the efficacy of sport psychology. For example, 64% of participants agreed with the statement: “I think a sport psychology consultant would help me perform better under pressure.” Specifically, 29.8%% selected moderately agree, 24.6% selected agree, and 9.6% selected strongly agree. The mean score for this question was 5.08 and the median was 5 (moderately agree).

Table 14

*Sports Psychology Attitudes-Revised*

	N	Minimum	Maximum	Mean	Std. Deviation
Openness	112	2.33	6.50	4.3318	.80616
Stigma	114	1.00	4.57	2.6190	.81206
Cultural	114	1.00	6.25	3.2544	1.04436
Confidence	113	3.00	7.00	5.0852	.78973

**Part 3: Conceptions of the Nature of Athletic Ability Questionnaire-2**

**Incremental beliefs (growth mindset).** The mean score 4.24 indicates that junior hockey players strongly identify with a growth mindset (Table 15). For example, 80.7% of participants agreed with the statement: “How good you are at sports will always improve if you work at it.” Specifically, 45.6% selected agree and 35.1% selected strongly agree. The mean score was 4.12 and the median was 4 (agree).

**Entity beliefs (fixed mindset).** The mean score 2.56 indicates that junior hockey players do not identify with a fixed mindset (Table 15). For example, 55.3% of participants disagreed with the statement: “It is difficult to change how good you are at sport.” Specifically, 7.9% selected disagree and 47.4% selected strongly disagree. The mean score was 2.62 and the median was 2 (disagree).

Table 15

*Conceptions of the Nature of Athletic Ability Questionnaire-2*

	N	Minimum	Maximum	Mean	Std. Deviation
Growth	113	3.00	5.00	4.2404	.50931
Fixed	114	1.17	3.67	2.5687	.55380

#### Part 4: Statistical Analysis

**Spearman's rank correlation.** A Spearman's rank correlation coefficient was used to assess the relationship between attitudes toward sport psychology and mindset (Table 16). A statistically significant correlation was not found between identification with a growth mindset and openness (.004). A statistically significant positive correlation was found between fixed mindset and personal openness (.258). Specifically, increased identification with a fixed mindset is associated with decreased personal openness.

A statistically significant correlation was not found between identification with a growth mindset and stigma (-.034). A statistically significant positive correlation was found between fixed mindset and stigma (.294). Specifically, increased identification with a fixed mindset is associated with increased stigma toward working with a sport psychologist.

A statistically significant correlation was not found between identification with a growth mindset and cultural preference (-.065). A statistically significant positive correlation was found between fixed mindset and cultural preference for a sport psychologist (.234). Specifically, increased identification with a fixed mindset is associated with increased preference for a sport psychologist consultant from one's own racial/ethnic group.

A statistically significant positive correlation was found between identification with a growth mindset and confidence in the efficacy of sport psychology provision (.185). Specifically, increased identification with a growth mindset is associated with increased confidence in the efficacy of sport psychology provision. A statistically significant negative correlation was found between fixed mindset and confidence in the

efficacy of sport psychology provision (-.235). Specifically, increased identification with a fixed mindset is associated with decreased confidence in the efficacy of sport psychology provision.

Table 16

*Spearman's Rank Correlation Coefficients*

		Fixed	Growth	Confidence	Cultural	Stigma	Openness
Fixed	Correlation Coefficient	1.000	-.295**	-.235**	.234**	.294**	.258**
	Sig.(1-tailed)		.001	.006	.006	.001	.003
	N	114	113	113	114	114	112
Growth	Correlation Coefficient	-.295**	1.000	.185*	-.065	-.034	.004
	Sig.(1-tailed)	.001		.026	.246	.360	.482
	N	113	113	112	113	113	111
Confidence	Correlation Coefficient	-.235**	.185*	1.000	-.099	-.402**	-.136
	Sig.(1-tailed)	.006	.026		.147	.000	.077
	N	113	112	113	113	113	111
Cultural	Correlation Coefficient	.234**	-.065	-.099	1.000	.054	.281**
	Sig.(1-tailed)	.006	.246	.147		.283	.001
	N	114	113	113	114	114	112
Stigma	Correlation Coefficient	.294**	-.034	-.402**	.054	1.000	.225**
	Sig.(1-tailed)	.001	.360	.000	.283		.009
	N	114	113	113	114	114	112
Openness	Correlation Coefficient	.258**	.004	-.136	.281**	.225**	1.000
	Sig.(1-tailed)	.003	.482	.077	.001	.009	
	N	112	111	111	112	112	112

\*\* Correlation is significant at the .01 level (1-tailed)

\* Correlation is significant at the .05 level (1-tailed)

**Mann-Whitney U.** A Mann-Whitney U test was used to investigate differences in attitudes toward sport psychology between participants with experience with sport psychology and participants without (Table 17). These differences were explored by investigating differences between working with a sport psychologist one-on-one versus

working with a sport psychologist in a team setting. The distinction between working one-on-one and in a team setting is important because a degree of choice is involved in working with a sport psychologist one-on-one as opposed to in a team-setting in which the decision is likely made by the coaching staff rather than the athlete. If there is a statistical difference, the null hypothesis is rejected. The null hypothesis is stated as: the distribution of attitudes toward sport psychology is the same for participants who have worked with a sport psychologist and participants who have not.

No statistical difference was found in any of the four constructs (e.g., stigma toward sport psychology, confidence in sport psychology, personal openness toward working with a psychological professional, and cultural preference for a sport psychology consultant), whether participants have worked with a sport psychologist in a team setting or not. Thus, in these cases, the null hypothesis was retained. Furthermore, no statistical difference was found in personal openness or cultural preference, whether an athlete worked with a sport psychologist one-on-one or not. Again, in these cases the null hypothesis was retained.

A statistically significant difference was found in confidence in sport psychology; the null hypothesis was rejected. Specifically, participants who have worked with a sport psychologist one-on-one reported increased confidence in the efficacy of sport psychology provision, as opposed to athletes who have not. A statistically significant difference was found in stigma tolerance; the null hypothesis was rejected. Specifically, participants who have worked with a sport psychologist one-on-one reported decreased stigma toward sport psychology provision, as opposed to athletes who have not. Therefore, previous one-on-one experience with a sport psychologist is associated with



increased confidence and decreased stigma toward sport psychology, in comparison to participants with no one-on-one experience.

Table 17

*Do Differences in Attitudes Toward Sport Psychology Exist Between Participants With Experience With Sport Psychology and Participants Without?*

Null Hypothesis	Test	Sig.	Decision
1. The distribution of Confidence is the same across categories of Have you worked one-on-one with a Sport Psychologist?	Independent-Samples Mann-Whitney U Test	.009	Reject the null hypothesis
2. The distribution of Cultural is the same across categories of Have you worked one-on-one with a Sport Psychologist?	Independent-Samples Mann-Whitney U Test	.086	Retain the null hypothesis
3. The distribution of Stigma is the same across categories of Have you worked one-on-one with a Sport Psychologist?	Independent-Samples Mann-Whitney U Test	.046	Reject the null hypothesis
4. The distribution of Openness is the same across categories of Have you worked one-on-one with a Sport Psychologist?	Independent-Samples Mann-Whitney U Test	.194	Retain the null hypothesis

*Asymptotic significances are displayed. The significance level is .05.*

**Kruskal-Wallis.** A Kruskal-Wallis test was utilized to investigate age differences in attitudes toward sport psychology (Table 18). Specifically, the null hypothesis was stated as: the distribution of attitudes toward sport psychology (cultural preference, confidence, stigma, and personal openness) is the same across ages (18, 19, and 20). For all attitudes and ages, the null hypothesis was retained. Moreover, there was not a significant difference in attitudes toward sport psychology dependent upon age.

A Kruskal-Wallis test was utilized to investigate if differences in attitudes toward sport psychology exist between AJHL, BCHL, and WHL hockey players. Specifically, the null hypothesis was stated as: the distribution of attitudes toward sport psychology (cultural preference, confidence, stigma, and personal openness) and mindset (growth and

fixed) is the same across leagues (AJHL, BCHL, and WHL). The null hypothesis was retained in all cases, with the exception of the difference in confidence in the efficacy of sport psychology which rejected the null hypothesis. A pairwise Mann-Whitney test without Bonferroni correction was then utilized and indicated that WHL players express more confidence in the efficacy of sport psychology than BCHL players.

Table 18

*Do Differences in Attitudes Toward Sport Psychology Exist Between Participants in Different Leagues?*

Null Hypothesis	Test	Sig.	Decision
1. The distribution of Confidence is the same across categories of What league do you currently play in?	Independent-Samples Kruskal-Wallis Test	.015	Reject the null hypothesis

*Asymptotic significances are displayed. The significance level is .05.*

## Chapter 5: Discussion

This chapter includes a discussion of the results presented in sequential order. In addition, the limitations of the current study and recommendations for future research are noted. Finally, the chapter ends with a conclusion.

### Part 1: Demographic Information

Of the 540 players from the AJHL, BCHL, and WHL who were invited to participate, 138 responded and 114 completed the study. The overwhelming majority of participants (92.9%), identified as Caucasian. This finding indicates that, in respect to race/ethnicity, the AJHL, BCHL, and WHL are racially homogenous leagues.

A significantly larger proportion of players from the BCHL (approximately 25%) and the WHL (approximately 40%), in comparison with players from the AJHL (approximately 15%), participated in the current research. There may be two reasons for this difference in participation. First, from this writer's perspective, two coaches in the BCHL and two coaches in the WHL expressed greater interest and were more apt to participate in the research than all other coaches. Specifically, each of these four coaches engaged in a comparatively long conversation with this writer, asked several questions, and expressed motivation to have their players participate. There was also a significant increase in response shortly after these four teams agreed to participate. Second, the BCHL and the WHL have the *Talk Today* program and the AJHL does not. It is possible the *Talk Today* program (a mental health initiative discussed in the literature review) has reduced stigma surrounding mental health—and by extension sport psychology—and contributed to increased proportional participation by BCHL and WHL players.

The players indicated the number of years they have played junior hockey. The majority (70.2%) had played in the league for one to two years, whereas only 20.2% had played for three years, 7.9 % for four years, and 1.8% for five years. This suggests that the lifespan of junior hockey careers is typically between one and three years, with very few players playing more than three years.

Only eight participants, two from the BCHL and six from the WHL, indicated that they had been drafted to the NHL. Thus, the likelihood that players from this research will have NHL careers is slight. However, 86.9% of participants indicated they plan to pursue a professional hockey career. Therefore, although only eight participants have been drafted to the NHL, and research states that only 5% of junior players will have a long-term career in the NHL, these athletes aspire to play professional hockey (Campbell & Parcels, 2013). Many junior hockey players pursue careers in overseas professional leagues and minor professional leagues in North America. These leagues receive significantly less media and fan attention, and financial compensation is also significantly less than what the NHL offers. Nevertheless, there is an opportunity for a career in professional hockey outside of the NHL.

All but 15 participants indicated they intend to pursue a university education following their hockey career. Moreover, 93.9% selected yes when asked: “Do you plan to pursue a university education following your junior career?” Fortunately for these athletes, Canadian junior hockey leagues provide resources and support (e.g., academic advisors) to facilitate the transition from junior to collegiate hockey.

In the CHL, which includes the WHL, there is a comprehensive scholarship program that includes a year of tuition, compulsory fees, and required textbooks paid in

full for each year played in the league. Each year, hundreds of former CHL players utilize these scholarships to pursue a post-secondary education. In the CJHL, which includes the AJHL and BCHL, many players secure CIS (Canadian Interuniversity Sport) and NCAA scholarships. Despite the success of Canadian junior hockey leagues in the production of collegiate players, research suggests that there are significant challenges for these athletes as they navigate the transition from junior hockey to university (Desjardins, 1991; McCoy, 2015; McKnight, Bernes, Gunn, Chorney, Orr, & Bardick, 2009).

Interestingly, many participants indicated aspirations to pursue both a university education and a professional hockey career. Participants playing in the CHL who plan to pursue a professional hockey career, may sacrifice their scholarship to join the professional ranks. That is, if a CHL player signs a contract with an NHL or top-level European professional team, or if they play more than one season in a minor professional league, they may lose their eligibility to use the CHL scholarship. CJHL players typically pursue an NCAA scholarship and attend university before pursuing a professional career. Moreover, generally, the CHL is a direct route from the junior to the professional ranks, whereas the CJHL is a route from junior, to university, to the professional ranks. Alternatively, CHL players may also attend university directly following their junior career and CJHL players may move directly from the junior to the professional ranks if the option is available. Thus, the path from Canadian junior hockey to or the professional ranks is not uniform and challenges exist. In fact, research has advocated for additional support to help Canadian junior hockey players navigate this significant transition (McCoy, 2015; McKnight et al., 2009)

**Experience with a sport psychologist.** Sport psychologists are being utilized by Canadian junior hockey players. Moreover, despite the fact that only 27.2% participants reported that their team has access to a sport psychologist, 32.5% of players worked one-on-one with a sport psychologist and 63.2% have worked with a sport psychologist in a team setting. Thus, teams are bringing in a sport psychologist to work with the entire team, rather than one-on-one.

**Willingness to work with a sport psychologist.** Overwhelmingly, participants reported that they are willing to work with a sport psychologist. Despite previous research that indicates psychological services are underutilized by athletes (Martin, 2005; Robinson, 2003), most participants in this study (93.9%) indicated a willingness to work with sport psychologists. This finding also challenges previous research that found male athletes in contact team sport express increased stigma toward working with psychologists (Martin, 2005). Moreover, Canadian junior hockey players are willing to utilize sport psychologists provided by their team. Unfortunately, most of these athletes do not have a sport psychologist working with their team.

**Preference for a psychological professional.** Sport psychologist was the top choice for Canadian junior hockey players when asked who they would prefer to seek help from for performance and mental health issues. This finding contradicts Martin (2005) who suggests sport psychology consultants should avoid using the word “psychologist” in their titles as athletes may be less receptive and express stigma toward working with these individuals. The findings support previous research that states athletes prefer psychological professionals with a knowledge of sport and sport-related titles (Broughton & Neyer, 2001; Gulliver, Griffiths, & Christen, 2012; Maniar et al., 2001).

The finding also provides additional evidence to support the notion that sport psychologists are the psychological professionals preferred by athletes. In fact, Robinson (2003) stated that the optimal situation for a psychological professional is to have knowledge of sport sciences, performance psychology, and the sport environment, and McCoy (2015) stated sport-specific knowledge is critical for helping professionals. Ultimately, these findings indicate that sport psychologist is the preferred title for Canadian junior hockey players seeking psychological help for mental health and performance issues.

## **Part 2: Sport Psychology Attitudes—Revised**

The Sport Psychology Attitudes—Revised questionnaire assessed four constructs: personal openness toward working with psychological professionals, stigma toward sport psychologists, cultural preference for a sport psychologist, and confidence in the efficacy of sport psychology provision. The following includes a discussion of each construct in sequential order.

**Personal openness.** A lack of personal openness has been identified as a barrier to the use of sport psychology (Anderson et al., 2004; Martin, 2005). Unfortunately, the results of the current research indicate that Canadian junior hockey players express a slight unwillingness to share personal information and seek psychological help. This finding aligns with Robinson (2003) who noted junior hockey players may have difficulty admitting problems. The tendency to avoid seeking help is compounded by athletes' atypical signs and symptoms of mental health issues (Wolanin, Gross, & Hong, 2015). Furthermore, a masculine culture that trivializes health concerns in male contact sports exists (Curry, 1993; Martin, Zakrajsek, & Wrisberg, 2012). Thus, extant literature

indicates that an unwillingness to share personal concerns or issues may be the most significant barrier to help-seeking among Canadian junior hockey players.

Mental health advocates and junior hockey players Myles Mattilla and Garrett Mcfadden recognize this issue and are admirably working to shift the culture to help junior hockey players feel comfortable seeking help. Fortunately, research also provides information that may help to mitigate a lack of personal openness. That is, a pre-existing relationship between the athlete and the psychological professional, and a positive relationship between the coach and the psychological professional, has been found to facilitate help-seeking (Gulliver, Griffiths, & Christensen, 2012; Robinson, 2003). The helping professional's relationship with sport has also been identified as a significant facilitator. That is, a psychological professional with a knowledge of sport and a sport-related title has been found to be an important facilitator to help-seeking (Broughton and Neyer, 2001; Lopez & Levey, 2013).

The current research adds credence to this notion, with 93.9% of participants reporting willingness to work with a sport psychologist, and most preferring professionals with the title of sport psychologist for help with mental health and performance issues. Therefore, although there are few sport psychologists operating in Canadian junior hockey leagues, research indicates that providing access to sport psychologists may mitigate the most significant barrier to help-seeking in this population.

**Stigma tolerance.** Stigma is important to investigate because previous research has indicated that stigma toward seeking help is a significant barrier to the provision of psychological services (Gulliver, Griffiths, & Christen, 2012; Lopez & Levey, 2013; Maniar et al., 2001; Martin, 2005). Furthermore, Martin (2005) found that males in



contact team sports expressed increased stigma as compared to female athletes, individual sport athletes, and non-contact sport athletes. Finally, McCoy (2015) identified a culture of silence in junior hockey that stigmatizes seeking help. Thus, considering previous research, it seems likely that Canadian junior hockey players would express significant stigma toward sport psychology. Interestingly, the results indicate that these athletes do not express stigma toward working with a sport psychologist. This finding is encouraging and contradicts previous research that identified stigma as the most significant barrier to help-seeking among male contact team sport athletes.

**Cultural preference.** Previous research has suggested that individuals prefer seeking help from a person who has a racial or ethnic background similar to their own (Martin, 2005). It is important to note that the previous research was conducted with a racially heterogeneous sample of NCAA athletes. The results from the current research indicate that Canadian junior hockey players do not express a preference for individuals from their own cultural or racial background. This finding is positive as it indicates that Canadian junior hockey players are open to working with sport psychologists who are from a different nationality, ethnicity, culture, or race.

**Confidence in sport psychology.** Anderson et al. (2004) found that confidence in the efficacy of sport psychology is the best predictor of intentions to use sport psychology services. Thus, the finding that Canadian junior hockey players are confident in the efficacy of sport psychology is encouraging. It is important to note that questions in this construct probed confidence in the efficacy of psychological services for performance improvement and mental health issues. Specifically, in regard to mental health issues, 66.6% of participants agreed with the statement, “At times I have felt lost and would

have welcomed professional advice for a personal or emotional problem.” This finding highlights that Canadian junior hockey players experience personal emotional problems for which they would welcome support from a qualified professional to help navigate.

### **Part 3: Conceptions of the Nature of Athletic Ability Questionnaire-2**

The CNAAQ-2 assessed the degree to which Canadian junior hockey players identify with a growth and fixed mindset. To reiterate, according to Dweck and Leggett (1988), mindset underpins judgements and action. A discussion of the results for each construct follows.

**Incremental beliefs (growth mindset).** Canadian junior hockey players in the current research had a mean score of 4.24 in the growth mindset construct. Simply put, these athletes believe in the importance of learning and improvement in the development of sport skills. This finding is promising as a growth mindset has been shown to be an adaptive mindset in achievement settings (Biddle et al., 2003; Dweck, 2008; MacNamara & Collins, 2015; Ommundsen, 2001; Ruiselová & Prokopčáková, 2005).

**Entity beliefs (fixed mindset).** Canadian junior hockey players in the current research had a mean score of 2.56 in the fixed mindset construct. Therefore, these athletes do not believe that skill and ability in sport are a stable gift that cannot be influenced or changed. On the contrary, as is indicated in the growth construct, these athletes believe that learning and improvement is important in the development of skills in sport. This finding is promising as a fixed mindset has been shown to be a maladaptive mindset in sport (Biddle et al., 2003; Dweck, 2008; Gardner, Vella, & Magee, 2015; Ommundsen, 2001).

#### **Part 4: Statistical Analysis**

**Mindset and attitudes toward sport psychology.** The correlational relationship between attitudes toward sport psychology and mindset indicate that, a growth and a fixed mindset are adaptive and maladaptive respectively. Specifically, a growth mindset is associated with increased confidence in the efficacy of sport psychology, whereas a fixed mindset is associated with decreased confidence in the efficacy of sport psychology, decreased personal openness, and increased stigma toward sport psychology.

These findings align with previous research investigating the role of mindset in a sport setting. Specifically, a growth mindset is associated with a host of adaptive outcomes such as intention to continue youth sport, sport enjoyment, motivation, and resilience (Biddle et al., 2003; Gardner, Vella, & Magee, 2017; Ommundsen, 2001; Ruiselová & Prokopčáková, 2005). Conversely, a fixed mindset is associated with a host of maladaptive outcomes such as increased competition anxiety, amotivation, and decreased physical education (Biddle et al., 2003; Gardner, Vella, and Magee, 2015; Ommundsen, 2001). Thus, extant literature indicates that a growth mindset is adaptive in a sport context. In fact, efforts have been made to provide instructional strategies to promote a growth mindset in youth sport (Vella, Cliff, Okely, Weintraub, & Robinson, 2014). Put simply, research indicates that promoting a growth mindset is advantageous.

**Previous experience and attitudes toward sport psychology.** Previous experience with a sport psychologist in a team setting made no difference with respect to attitudes toward sport psychology. One-on-one experience with a sport psychologist was associated expressed increased confidence in the efficacy of sport psychology provision and decreased stigma. These findings make intuitive sense: individuals who choose to

work with a sport psychologist one-on-one would do so because of a belief that a sport psychologist can help, and the act of doing so indicates a lack of stigma toward seeking psychological help. Interestingly, 91.2% of participants stated that they are willing to work with a sport psychologist if access is provided by their team. Thus, it is possible that if a sport psychologist is provided by the team, stigma may be reduced and confidence in the efficacy of sport psychology may increase.

**Age and attitudes toward sport psychology.** There was no significant difference in attitudes toward sport psychology dependent upon age. This finding is not surprising, as athletes from age 18 to 20 likely have very similar experiences. Differences may exist for younger players (16–18), as these athletes are likely in high school and thus their experience may be quite different. Nevertheless, previous research has not found differences in attitudes toward sport psychology dependent upon age (Anderson et al., 2004).

**League and attitudes toward sport psychology.** There was only one significant difference found between the three leagues in regard to attitudes toward sport psychology. This difference was between WHL and BCHL players confidence in the efficacy of sport psychology; WHL players reported greater confidence. This may be a result of higher-level players participating in the WHL. However, if this was the case, it would be expected that the same significant difference would exist between WHL and AJHL players. Thus, there is no clear explanation for this finding.

### **Limitations**

The results from the current study may not be generalizable to lower-level Canadian junior hockey players, players from different geographic locations, and players

under the age of 18. That is, this research focused on the top-tier leagues in Canadian junior hockey and thus may not be generalizable to lower-level junior leagues across Canada. Furthermore, the research was limited to leagues in Western Canada and thus the findings may not be generalizable to leagues outside the geographic area. Finally, the current research did not include junior hockey players under the age of 18. Athletes younger than 18 may have different experiences in junior hockey and thus different attitudes and mindsets—although no differences were found dependent upon age.

Another limitation of the current research is that it is quantitative. The addition of qualitative research or a mixed methods approach would add depth to an understanding of Canadian junior hockey players. Furthermore, although the number of participants in the current research was high in comparison to other research with this population, more participation would have increased the generalizability of the findings. It is also possible that respondents had more positive attitudes toward sport psychology than non-respondents, thus influencing the results to be more positive. Lastly, preference for the gender of helping professionals is a potentially significant factor that was not explored.

### **Future Research**

Future research should investigate the individuals currently working in the sport psychologist or mental coach role with Canadian junior hockey teams. Specifically, information related to the experience, credentials, role, and titles of these individuals is not readily accessible. Thus, it is important to gain an understanding of the level of expertise and education of these individuals, and the role they occupy within Canadian junior hockey teams. A qualitative investigation of the players' attitudes and experiences

with sport psychologists, and other helping professionals, would also add to the current research and the overall understanding of Canadian junior hockey players.

The participants in this study overwhelmingly reported aspirations to pursue post-secondary education. Although a comprehensive scholarship program exists in the CHL, further research into the transitional process from junior to university is warranted. In particular, actively planning for the future has been identified as the most effective strategy for managing career transitions (McCoy, 2015; McKnight et al., 2009). Therefore, a program to facilitate exploration of educational interests and career planning, perhaps facilitated by a sport psychologist, may be beneficial. In addition, a significant number of participants reported aspirations to pursue a professional career. Further research is warranted to understand the factors that facilitate or hinder this transition.

Future research should compare the findings from the SPA-R and CNAAQ-2 in the current research with athletes from other countries, sports, and skill levels. In fact, there is research that has investigated differences between sports and nationalities (Anderson et al., 2004; Martin, 2005). Therefore, comparison between Canadian junior hockey players and athletes from different sports and other nations is warranted.

## **Conclusion**

In this study, Canadian junior hockey players' mindsets and attitudes toward sport psychology were investigated to gain a comprehensive understanding of their attitudes toward sport psychologists and seeking psychological assistance. The findings provide information relevant to the athletes' attitudes toward sport psychology, the provision of psychological services in Canadian junior hockey, and research on the role of mindset in

a sport setting. That is, Canadian junior hockey players express positive attitudes toward sport psychology and are inclined to work with sport psychologists. Specifically, these athletes are confident in the efficacy of sport psychology provision, do not express stigma toward working with sport psychologists, and do not express a cultural preference for sport psychologists. However, personal openness (i.e., unwillingness to share personal information or seek psychological help) was found to be a barrier to the athletes receiving psychological help.

The findings also illustrate the adaptive nature of a growth mindset and the maladaptive nature of a fixed mindset, in respect to attitudes toward sport psychology. Specifically, a growth mindset is adaptive as it is associated with increased confidence in the efficacy of sport psychology. Conversely, a fixed mindset is maladaptive as it is associated with decreased confidence in the efficacy of sport psychology, decreased personal openness, and increased stigma toward sport psychology. Thus, fostering a growth mindset is advantageous as it is associated with positive attitudes toward sport psychology.

The current research aligns with previous research and reinforces the notion that providing proactive and preventative sport psychology services to athletes in Canadian junior hockey is a worthwhile endeavor (Bruner et al., 2008; Desjardins 1991; McCoy, 2015; McKnight et al., 2009; Robinson, 2003). These findings echo the voices of the Canadian junior hockey players, Myles Mattilla and Garrett Mcfadden, who have taken it upon themselves to reduce mental health stigma and advocate for athletes to seek psychological help. Thus, it is important for these athletes to have access to psychological services, namely sport psychologists, to improve performance, support mental health,

promote holistic development, and, ultimately, help these young men navigate their teenage years and junior hockey careers.



## References

- Allain, K. A. (2013). 'What happens in the room stays in the room': Conducting research with young men in the Canadian Junior Hockey League. *Qualitative Research in Sport, Exercise and Health*, 6(2), 205–219. doi:10.1080/2159676X.2013.796486
- Anderson, A. G., Hodge, K. P., Lavalley, D., & Martin, S. B. (2004). New Zealand athletes' attitudes toward seeking sport psychology consultation. *The New Zealand Journal of Psychology*, 33(3), 129–136.
- Armstrong, N., & McManus, A. M. (2011). Physiology of Elite Young Male Athletes. In N. Armstrong & A. M. McManus (Eds.), *The Elite Young Athlete*. (1–22). Switzerland: Karger Publications.
- Baker, J., & Logan, A. J. (2007). Developmental contexts and sporting success: birth date and birthplace effects in national hockey league draftees 2000–2005. *British Journal of Sports Medicine*, 41(8), 515–517. doi:10.1136/bjism.2006.033977
- Baker, T. A., III & Byon, K. K. (2014). Developing a Scale of Perception of Sexual Abuse in Youth Sports (SPSAYS). *Measurement in Physical Education and Exercise Science*, 18(1), 31–52. doi:10.1080/1091367X.2013.841700
- Bandura, A. (1986). Social foundations of thought and action: a social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.
- Barber, B. L., Eccles, J. S., & Stone, M. R. (2001). Whatever happened to the jock, the brain, and the princess? Young adult pathways linked to adolescent activity involvement and social identity. *Journal of adolescent research*, 16(5), 429–455. doi:10.1177/07435584011165002

- Baum, A. (2006). Eating disorders in the male athlete. *Sports Medicine*, 36(1), 1–6.  
doi:10.2165/00007256-200636010-00001
- Biddle, S. J., Wang, C. J., Chatzisarantis, N. L., & Spray, C. M. (2003). Motivation for physical activity in young people: Entity and incremental beliefs about athletic ability. *Journal of Sports Science*, 21(12), 973–989.  
doi:10.1080/02640410310001641377
- Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child development*, 78(1), 246–263.  
doi: 10.1111/j.1467-8624.2007.00995.x
- Blakemore, S. J., & Choudhury, S. (2006). Development of the adolescent brain: implications for executive function and social cognition. *Journal of child psychology and psychiatry*, 47(3–4), 296–312.  
doi:10.1111/j.1469-7610.2006.01611.x
- Brackenridge, C., & Kirby, S. (1997). Playing safe: assessing the risk of sexual abuse to elite child athletes. *International Review for the Sociology of Sport*, 32(4), 407–418. doi:10.1177/101269097032004005
- Broughton, E., & Neyer, M. (2001). Advising and counseling student athletes. *New directions for student services*, (93), 47–53.
- Bruner, M. W. (2002). *An investigation of the cognitive, social, and emotional development of major junior OHL hockey players*. Unpublished master's thesis, University of Windsor, Canada. Retrieved from <http://scholar.uwindsor.ca/cgi/viewcontent.cgi?article=2119&context=etd>

- Bruner, M. W., Munroe-Chandler, K. J., & Spink, K. S. (2008). Entry into elite sport: A preliminary investigation into the transition experiences of rookie athletes. *Journal of applied sport psychology*, 20(2), 236–252.  
doi:10.1080/10413200701867745
- Burnette, J. L., O’Boyle, E. H., VanEpps, E. M., Pollack, J. M., & Finkel, E. J. (2013). Mind-sets matter: A meta-analytic review of implicit theories and self-regulation. 1–129. Retrieved from <https://pdfs.semanticscholar.org/1ee7/f66cfb1c69d996f5d224c71f480f3bc59708.pdf>
- Burr, W. (2015, December 5). Family of André Parker speak of teen’s suicide and healing. *CBC News*. Retrieved from <http://www.cbc.ca/news/canada/saskatchewan/family-andr%C3%A9-parker-teen-suicide-1.3351982>
- Campbell, K. (2014, March 25). What happened before and after Terry Trafford’s suicide. *The Hockey News*. Retrieved from <http://www.thehockeynews.com/blog/what-happened-before-and-after-terry-traffords-suicide/>
- Campbell, K., & Parcels, J. (2013). *Selling the dream: How hockey parents and their kids are paying the price for our national obsession*. Toronto, ON: Penguin Group.
- Canadian Heritage. (2003). Reconnecting Government with Sport Survey: fact sheet. Retrieved from <http://canada.pch.gc.ca/eng/1413910841375/>
- Collins, M. W., Lovell, M. R., Iverson, G. L., Cantu, R. C., Maroon, J. C., & Field, M. (2002). Cumulative effects of concussion in high school athletes. *Neurosurgery*, 51(5), 1175–1181. Retrieved from <uploads/sites/2/2016/12/Cumulative-Effects-of-Concussion-in-HS-Athletics.pdf>

- Côté, J. (1999) The influence of the family in the development of talent in sport, *The Sport Psychologist*, 13, 395–417.
- Côté, J., Baker, J., & Abernethy, B. (2007). Practice and play in the development of sport expertise. In G. Tennenbaum, & R. C. Eklund (Eds.), *Handbook of Sport Psychology (3rd ed.)*. (184–202). New York: Wiley.
- Curry, T. J. (1993). A little pain never hurt anyone: Athletic career socialization and the normalization of sports injury. *Symbolic Interaction*, 16(3), 273–290.  
doi: 10.1525/si.1993.16.3.273
- Curry, F., Da Fonseca, D., Zahn, I., & Elliott, A. (2008). Implicit theories and IQ test performance: A sequential mediational analysis. *Journal of Experimental Social Psychology*, 44(3), 783–791. doi:10.1016/j.jesp.2007.07 .003
- Curtis, J., & Ennis, R. (1988). Negative consequences of leaving competitive sport? Comparative findings for former elite-level hockey players. *Sociology of Sport Journal*, 5(2), 87–106. doi:10.1123/ssj.5.2.87
- Dahl, R. E. (2004). Adolescent brain development: a period of vulnerabilities and opportunities. Keynote address. *Annals of the New York Academy of Sciences*, 1021(1), 1–22. doi:10.1196/annals.1308.001
- Desjardins, W. (1991). *The junior hockey experience and transition problems into a university career*. Unpublished master's thesis, University of Calgary, Calgary, Alberta, Canada.
- Dubé, T. V., Schinke, R. J., Hancock, D. J., & Dubuc, N. G. (2007). The social support experiences of major junior ice hockey players in a physically removed region of

- Canada. *Journal of Sports Science and Medicine*, 6, 393–400. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3794476/>
- Duistman, D. M., Colbry, S. L. (1995). Perceived risk and use as predictors of substance use among college students. *Health Values the Journal of Health Behavior education & Promotion*, 19(2), 44–52. Retrieved from <http://psycnet.apa.org/psycinfo/1995-37289-001>
- DuRant, R. H., Escobedo, L. G., & Heath, G. W. (1995). Anabolic-steroid use, strength training, and multiple drug use among adolescents in the United States. *Pediatrics*, 96(1), 23–28. Retrieved from <http://pediatrics.aappublications.org/content/96/1/23>
- Dweck, C. S. (2008). *Mindset: The new psychology of success*. New York: Random House Digital, Inc.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological review*, 95(2), 256–273.  
doi:10.1037/0033-295X.95.2.256
- Edwards, D. J., & Steyn, B. J. (2008). Sport psychological skills training and psychological well-being. *South African Journal for Research in Sport, Physical Education and Recreation*, 30(1), 15–28. Retrieved from <https://journals.co.za/content/sport/30/1/EJC108871>
- Eklund, R. C., & DeFreese, J. D. (2015). Athlete Burnout: What We Know, What We Could Know, and How We Can Find Out More. *International Journal of Applied Sports Sciences*, 27(2), 63–75. Retrieved from [https://www.researchgate.net/profile/Robert\\_Eklund2/publication/303404128\\_At](https://www.researchgate.net/profile/Robert_Eklund2/publication/303404128_At)

hlete\_burnout\_What\_we\_know\_and\_what\_we\_should\_be\_finding\_out\_about/links/574195a908aea45ee8499bad.pdf

- Engel, G. L. (1978). The biopsychosocial model and the education of health professionals. *Annals of the New York Academy of Sciences*, 310(1), 169–181. doi:10.1111/j.17496632.1978.tb22070.x
- Fletcher, D., & Hanton, S. (2003). Sources of organizational stress in elite sports performers. *The Sport Psychologist*, 17(2), 175–195. doi:10.1123/tsp.17.2.175
- Fleury, T., & McLellan Day, K. (2009). *Playing with fire*. Toronto: Harper Collins.
- Ford, P. A. (2011). Tracking physical activity, energy balance and health from childhood to adulthood. In N. L. Holt & M. Talbot (Eds.), *Lifelong engagement in sport and physical activity*. (33–44). New York: Routledge.
- Gardner, L. A., Vella, S. A., & Magee, C. A. (2015). The relationship between implicit beliefs, anxiety, and attributional style in high-level soccer players. *Journal of Applied Sport Psychology*, 27(4), 398–411. doi:10.1080/10413200.2015.1019681
- Gardner, L. A., Vella, S. A., & Magee, C. A. (2017). Continued Participation in Youth Sports: The Role of Achievement Motivation. *Journal of Applied Sport Psychology*, 29(1), 17–31. doi:10.1080/10413200.2016.1173744
- Gervis, M., & Dunn, N. (2004). The emotional abuse of elite child athletes by their coaches. *Child Abuse Review*, 13(3), 215–223. doi:10.1002/car.843
- Gould, D., & Carson, S. (2008). Life skills development through sport: Current status and future directions. *International review of sport and exercise psychology*, 1(1), 58–78. doi:10.1080/17509840701834573

- Gulliver, A., Griffiths, K. M., & Christensen, H. (2012). Barriers and facilitators to mental health help-seeking for young elite athletes: a qualitative study. *BMC psychiatry, 12*(1), 157. doi:10.1186/1471-244X-12-157
- Halstead, M. E., & Walter, K. D. (2010). Sport-related concussion in children and adolescents. *Pediatrics, 126*(3), 597–615. doi:10.1542/peds.2010-2005
- Hamberger, M., & Iso-Ahola, S. E. (2006). Factors affecting athletes' attitudes toward Sport Psychology Consultants. *Journal of Contemporary Athletics, 2*(1), 57–77.
- Hanson-Utley, J. J., Martin, S., & Walters, J. (2008). Athletic trainers' and physical therapists' perceptions of the effectiveness of psychological skills within sport injury rehabilitation programs. *Journal of Athletic Training, 43*(3), 258–264. doi:10.4085/1062-6050-43.3.258
- Helliwell, J. F., & Barrington-Leigh, C. P. (2010). Viewpoint: Measuring and understanding subjective well-being. *Canadian Journal of Economics/Revue canadienne d'économique, 43*(3), 729–753. doi:10.1111/j.15405982.2010.01592.x
- Holt, N. L., & Sehn, Z. L. (2008). Processes associated with positive youth development and participation in competitive youth sport. *Positive youth development through sport, (24-33)*. London: Routledge.
- Howald, J. (2017, May 17). Garrett Mcfadden named OHL humanitarian of the year. *The Kincardine Independent*. Retrieved from <http://independent.on.ca/site/?q=node/6630>
- Hughes, L., & Leavey, G. (2012). Setting the bar: athletes and vulnerability to mental illness. *The British Journal of Psychiatry, 200*(2), 95–96. doi:10.1192/bjp.bp.111.095976

- Jayanthi, N., Pinkham, C., Dugas, L., Patrick, B., & LaBella, C. (2013). Sports specialization in young athletes: evidence-based recommendations. *Sports health, 5*(3), 251–257. doi:10.1177/1941738112464626
- Jellinek, M. S., Tofler, I. R., Knapp, P. K., & Drell, M. J. (1999). The “achievement by proxy” spectrum: recognition and clinical response to pressured and high-achieving children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 38*(2), 213–216. doi:10.1097/00004583-199902000-00022
- Jeukendrup, A., & Cronin, L. (2011). Nutrition and elite young athletes. In N. Armstrong & A. M. McManus (Eds.), *The Elite Young Athlete*. (47–58). Switzerland: Karger Publications.
- Joyce, G. (2012). *Hockey Canada: Thirty Years of Going for Gold at the World Juniors*. Toronto: Penguin Books.
- Kaczmarek, P., & Riva, M. (1996). Facilitating adolescent optimal development: training considerations for counseling psychologists. *The Counseling Psychologist, 24*(3), 400–432. doi:10.1177/0011000096243003
- King, T. (2017, January 4). Brooks Bandits will host Mental Health Charity Jersey Night Jan. 21. *Prairie Post*. Retrieved from <http://www.prairiepost.com/sports/alberta/item/11542-brooks-bandits-will-host-mental-health-charity-jersey-night-jan-21.html>
- Lavallee, D., Jennings, D., Anderson, A. G., & Martin, S. B. (2005). Irish Athletes’ Attitudes Toward Seeking Sport Psychology Consultation. *The Irish Journal of Psychology, 26*(3–4), 115–121. doi:10.1080/03033910.2005.10446214



- Lavallee, D., & Wylleman, P. (2000). Career transitions in sport: European perspectives. *Psychology of Sport and Exercise, 5*(1), 7–20.  
doi:10.1016/S14690292(02)00049-3
- Leahy, T., Pretty, G., & Tenenbaum, G. (2002). Prevalence of sexual abuse in organised competitive sport in Australia. *Journal of sexual aggression, 8*(2), 16-36.  
doi:10.1080/13552600208413337
- Li, W., & Lee, A. (2004). A review of conceptions of ability and related motivational constructs in achievement motivation. *Quest, 56*(4), 439–461.  
doi:10.1080/00336297.2004.10491836
- Lopez, R. L., & Levy, J. J. (2013). Student athletes' perceived barriers to and preferences for seeking counseling. *Journal of College Counseling, 16*(1), 19–31.  
doi:10.1002/j.21611882.2013.00024.x
- Macciocchi, S. N., Barth, J. T., & Littlefield, L. M. (1998). Outcome after mild head injury. *Clinics in sports medicine, 17*(1), 27–36.  
doi:10.1016/S0278-5919(05)70058-2
- MacNamara, Á., & Collins, D. (2015). Profiling, exploiting, and countering psychological characteristics in talent identification and development. *The Sport Psychologist, 29*(1), 73–81. doi:10.1123/tsp.2014-0021
- Maffulli, N., Longo, U. G., Gougoulas, N., Loppini, M., & Denaro, V. (2010). Long-term health outcomes of youth sports injuries. *British journal of sports medicine, 44*(1), 21-25. doi:10.1136/bjism.2009.069526

- Maniar, S. D., Curry, L. A., Sommers-Flanagan, J., & Walsh, J. A. (2001). Student-athlete preferences in seeking help when confronted with sport performance problems. *The Sport Psychologist, 15*(2), 205–223. doi:10.1123/tsp.15.2.205
- Martin, S. B. (2005). High school and college athletes' attitudes toward sport psychology consulting. *Journal of Applied Sport Psychology, 17*(2), 127–139.  
doi:10.1080/1413200590932434
- Martin, S. B., Kellmann, M., Lavalley, D., & Page, S. J. (2002). Development and psychometric evaluation of the sport psychology attitudes—Revised form: A multiple group investigation. *The Sport Psychologist, 16*(3), 272–290.  
doi:10.1123/tsp.16.3.272
- Martin, S. B., Wrisberg, C. A., Beitel, P. A., & Lounsbury, J. (1997). NCAA Division I athletes' attitudes toward seeking sport psychology consultation: the development of an objective instrument. *Sport Psychologist, 11*, 201–218.  
doi:10.1123/tsp.11.2.201
- Martin, S. B., Zakrajsek, R. A., & Wrisberg, C. A. (2012). Attitudes toward sport psychology and seeking assistance: Key factors and a proposed model. In C. D. Logan & M. I. Hodges (Eds.), *Psychology of attitudes*, (1-33). Hauppauge, NY: Nova Science Publishers Inc.
- McCoy, L. K. (2015). *Investigating Athletic Career Transitions of Canadian Major Junior Hockey Players*. Unpublished master's thesis. University of Calgary, Calgary, Alberta, Canada. Retrieved from  
[http://theses.ucalgary.ca/bitstream/11023/2442/2/ucalgary\\_2015\\_mccoy\\_lauren.pdf](http://theses.ucalgary.ca/bitstream/11023/2442/2/ucalgary_2015_mccoy_lauren.pdf)

- McKnight, K., Bernes, K., Gunn, T., Chorney, D., Orr, D., & Bardick, A. (2009). Life after sport: Athletic career transition and transferable skills. *Zone of Excellence, 13*, 63-77. Retrieved from [https://www.uleth.ca/dspace/bitstream/handle/10133/1175/Life\\_After\\_Sport.pdf?sequence=1](https://www.uleth.ca/dspace/bitstream/handle/10133/1175/Life_After_Sport.pdf?sequence=1)
- McManus, A. M., Armstrong, N. (2011). Physiology of Elite Young Female Athletes. In N. Armstrong & A. M. McManus (Eds.), *The Elite Young Athlete*. (23–46). Switzerland: Karger Publications.
- Mechanic, D., & Hansell, S. (1987). Adolescent competence, psychological well-being, and self-assessed physical health. *Journal of Health and Social Behavior, 28*(4), 364–374. Retrieved from [http://www.jstor.org/stable/2136790?seq=1#page\\_scan\\_tab\\_contents](http://www.jstor.org/stable/2136790?seq=1#page_scan_tab_contents)
- Merkel, D. L. (2013). Youth sport: positive and negative impact on young athletes. *Journal of Sports Medicine, 4*, 151. doi:10.2147/OAJSM.S33556
- Moore, Z. E., & Bonagura, K. (2017). Current opinion in clinical sport psychology: from athletic performance to psychological well-being. *Current opinion in psychology, 16*, 176–179. doi:10.1016/j.copsyc.2017.05.016
- Murphy, S. M. (1995). *Sport psychology interventions*. Champaign, IL: Human Kinetics.
- Nixdorf, I., Frank, R., & Beckmann, J. (2015). An explorative study on major stressors and its connection to depression and chronic stress among German elite athletes. *Advances in Physical Education, 5*(04), 255. Retrieved from [https://www.researchgate.net/profile/Insa\\_Nixdorf/publication/284150316\\_An\\_Explorative\\_Study\\_on\\_Major\\_Stressors\\_and\\_Its\\_Connection\\_to\\_Depression\\_and](https://www.researchgate.net/profile/Insa_Nixdorf/publication/284150316_An_Explorative_Study_on_Major_Stressors_and_Its_Connection_to_Depression_and)

Chronic\_Stress\_among\_German\_Elite\_Athletes/links/564c5fde08aeab8ed5e8bd75.pdf

- Nixon, H. L. (1996). Explaining pain and injury attitudes and experiences in sport in terms of gender, race, and sports status factors. *Journal of Sport and Social Issues, 20*(1), 33–44. doi:10.1177/019372396020001004
- Nolan, J. E., & Howell, G. (2010). Hockey success and birth date: The relative age effect revisited. *International Review for the Sociology of Sport, 45*(4), 507–512. doi:10.1177/1012690210371560
- Oliver, J. L., Lloyd, R. S., & Meyers, R. W. (2011). Training elite child athletes: Promoting welfare and well-being. *Strength & Conditioning Journal, 33*(4), 73–79. doi:10.1519/SSC.0b013e318216a9b6
- Olver, R. (1991). *The making of champions: Life in Canada's Junior A leagues*. Toronto: Penguin Books.
- Ommundsen, Y. (2001). Affective Responses in Physical Education Classes: the Association of Implicit Theories of the Nature of Ability and Achievement Goals. *European Physical Education Review, 7*(3), 219–242. doi:10.1177/1356336X010073001
- Pate, R. R., Trost, S. G., Levin, S., Dowda, M. (2000). Sports participation and health-related behaviors among US youth. *Archives of Pediatrics & Adolescent Medicine, 154*, 904–911. doi:10.1001/archpedi.154.9.904
- Petitpas, A. J., Cornelius, A., & Van Raalte, J. (2007). Youth development through sport: It's all about relationships. In N. L. Holt (Ed.), *Positive Youth Development through Sport*, 61–70.

- Puentedura, E. J., & Louw, A. (2012). A neuroscience approach to managing athletes with low back pain. *Physical Therapy in Sport, 13*(3), 123–133.  
doi:10.1016/j.ptsp.2011.12.001
- Puri, B. (2015, October 6). B.C. Hockey League and Canadian Mental Health Association launch new mental health program. *Canadian Broadcasting Corporation*. Retrieved from <http://www.cbc.ca/news/canada/british-columbia/mental-health-hockey-1.3259777>
- Rice, S. M., Purcell, R., De Silva, S., Mawren, D., McGorry, P. D., & Parker, A. G. (2016). The mental health of elite athletes: a narrative systematic review. *Sports Medicine, 46*(9), 1333–1353. doi:10.1007/s40279-016-0492-2
- Robinson, D. (2003). *Partnerships in performance: Effective referral and collaboration between coaches and psychologists*. Unpublished master's thesis. University of Lethbridge, Lethbridge, Alberta, Canada. Retrieved from <https://www.uleth.ca/dspace/bitstream/handle/10133/204/MQ83778.pdf?>
- Robinson, D., & Bernes, K. B. (2004). Comprehensive Sports Psychological Services for the Junior "A" Hockey Leagues in Canada. *Journal of Excellence, 10*, 66–79.  
Retrieved from <https://www.uleth.ca/dspace/bitstream/handle/10133/1169/Comprehensive%20Sports%20Psychological%20Services%20for%20the.pdf?se>
- Roy, J., & Camiré, M. (2017). A season-long case study examining alcohol use and misuse in Canadian junior hockey. *Qualitative Research in Sport, Exercise and Health, 9*(3), 354–371. doi:10.1080/2159676X.2017.1292304

- Ruiselová, Z., & Prokopčáková, A. (2005). Coping style and anxiety in relation to the implicit theory of intelligence. *Studia psychologica*, 47(4), 301–307. Retrieved from <http://search.proquest.com/openview/d349ddad70ac14bc4707a82ff37aceb4/1?pq-origsite=gscholar&cbl=75942>
- Sagar, S. S., Lavalley, D., & Spray, C. M. (2009). Coping with the effects of fear of failure: A preliminary investigation of young elite athletes. *Journal of Clinical Sport Psychology*, 3(1), 73–98. doi:10.1123/jcsp.3.1.73
- Schubring, A., & Thiel, A. (2014). Coping with growth in adolescent elite sport. *Sociology of Sport Journal*, 31(3), 304–326. doi:10.1123/ssj.2013-0071
- Steffen, K., & Engebretsen, L. (2010). More data needed on injury risk among young elite athletes. *British Journal of Sports Medicine*, 44(7), 485–489. Retrieved from <http://bjsm.bmj.com/content/44/7/485>
- Sundgot-Borgen, J., & Torstveit, M. K. (2004). Prevalence of eating disorders in elite athletes is higher than in the general population. *Clinical Journal of Sport Medicine*, 14(1), 25–32. Retrieved from [http://journals.lww.com/cjsportsmed/Abstract/2004/01000/Prevalence\\_of\\_Eating\\_Disorders\\_in\\_Elite\\_Athletes.5.aspx](http://journals.lww.com/cjsportsmed/Abstract/2004/01000/Prevalence_of_Eating_Disorders_in_Elite_Athletes.5.aspx)
- Swann, C., Crust, L., & Vella, S. A. (2017). New directions in the psychology of optimal performance in sport: flow and clutch states. *Current opinion in psychology*, 16, 48–53. doi:10.1016/j.copsyc.2017.03.032
- Vella, S. A., Cliff, D. P., Okely, A. D., Weintraub, D. L., & Robinson, T. N. (2014).

- Instructional strategies to promote incremental beliefs in youth sport. *Quest*, *66*, 357–370. doi:10.1080/00336297.2014.950757
- Wakefield, J. C., Shipherd, A. M., & Lee, M. A. (2017). Athlete Superstitions in Swimming: Beneficial or Detrimental? *Strategies*, *30*(6), 10–14. doi:10.1080/08924562.2017.1369477
- Watson, J. C. (2005). College student-athletes' attitudes toward help-seeking behavior and expectations of counseling services. *Journal of College Student Development*, *46*(4), 442–449. doi:10.1353/csd.2055.0044
- Watson, R. C., Nystrom, M. A., & Buckolz, E. (1997). Safety in Canadian junior ice hockey: the association between ice surface size and injuries and aggressive penalties in the Ontario Hockey League. *Clinical Journal of Sport Medicine*, *7*(3), 192–195. Retrieved from [http://journals.lww.com/cjsportsmed/Abstract/1997/07000/Safety\\_in\\_Canadian\\_Junior\\_Ice\\_Hockey\\_\\_The.7.aspx](http://journals.lww.com/cjsportsmed/Abstract/1997/07000/Safety_in_Canadian_Junior_Ice_Hockey__The.7.aspx)
- Weinberg, R., & Gould, D. (2010). *Foundations of Sport and Exercise Psychology*, 5E. Champaign, IL: Human Kinetics.
- Wetherill, R. R., & Fromme, K. (2007). Alcohol use, sexual activity, and perceived risk in high school athletes and non-athletes. *Journal of Adolescent Health*, *41*(3), 294–301. doi:10.1016/j.jadohealth.2007.04.019
- Wiese-Bjornstal, D. M. (2010). Psychology and socioculture affect injury risk, response, and recovery in high-intensity athletes: a consensus statement. *Scandinavian Journal of Medicine & Science in Sports*, *20*(s2), 103–111. doi:10.1111/j.1600-0838.2010.01195.x

- Willer, B., Kroetsch B., Darling, S., Hutson, A., & Leddy, J. (2005). Injury rates in house league, select, and representative youth ice hockey. *Medicine & Science in Sports & Exercise*, 37(10), 1658–1663. Retrieved from [https://www.researchgate.net/profile/Alan\\_Hutson/publication/7506110\\_Injury\\_Rates\\_in\\_House\\_League\\_Select\\_and\\_Representative\\_Youth\\_Ice\\_Hockey/links/00b7d529dff9867b01000000/Injury-Rates-in-House-League-Select-and-Representative-Youth-Ice-Hockey.pdf](https://www.researchgate.net/profile/Alan_Hutson/publication/7506110_Injury_Rates_in_House_League_Select_and_Representative_Youth_Ice_Hockey/links/00b7d529dff9867b01000000/Injury-Rates-in-House-League-Select-and-Representative-Youth-Ice-Hockey.pdf)
- Williams, C. (2011). Environmental Factors Affecting Elite Young Athletes. In N. Armstrong & A. M. McManus (Eds.), *The Elite Young Athlete*. (150–171). Switzerland: Karger Publications.
- Wilson, K. A., Gilbert, J. N., Gilbert, W. D., & Sailor, S. R. (2009). College athletic directors' perceptions of sport psychology consulting. *The Sport Psychologist*, 23(3), 405–424. doi:10.1123/tsp.23.3.405
- Winsley, R., & Matos, N. (2011). Overtraining and elite young athletes. In N. Armstrong & A. M. McManus (Eds.), *The Elite Young Athlete*. (97–105). Switzerland: Karger Publications
- Wolanin, A., Gross, M., & Hong, E. (2015). Depression in athletes: prevalence and risk factors. *Current sports medicine reports*, 14(1), 56–60. doi:10.1249/JSR.0000000000000123
- Wrisberg, C. A., & Martin, S. B. (1994, October). *Attitudes of African American and Caucasian athletes toward sport psychology consultants*. Paper presented at the meeting of the Association for the Advancement of Applied Sport Psychology, Incline Village, NV.



- Zakrajsek, R. A., Martin, S. B., & Zizzi, S. J. (2011). American high school football coaches' attitudes toward sport psychology consultation and intentions to use sport psychology services. *International Journal of Sports Science & Coaching*, 6(3), 461–478. doi:10.1260/1747-9541.6.3.461
- Zakrajsek, R. A., & Zizzi, S. J. (2007). Factors influencing track and swimming coaches' intentions to use sport psychology services. *Athletic Insight: The Online Journal of Sport Psychology*, 9(2), 1–21. Retrieved from <http://www.athleticinsight.com/Vol9Iss2/CoachingPDF.pdf?q=factors-influencing-track-and-swimming-coaches-intentions-to>
- Zarrett, N., Lerner, R. M., Carrano, J., Fay, K., Peltz, J. S., & Li, Y. (2008). Variations in adolescent engagement in sports and its influence on positive youth development. In N. L. Holt (Ed), *Positive Youth Development through Sport*. (9–23). Oxford, England: Routledge.

## Appendix A

### Email To League Commissioners

Dear Commissioner,

My name is Robbie Shaw and I am a Master of Education (Counselling Psychology) student at the University of Lethbridge. Under the supervision of Dr. Kerry Bernes, I am completing a Master's thesis investigating Canadian junior hockey player's attitudes toward sport psychology and mindset. The goal of the research is to gain a comprehensive understanding of Canadian junior hockey players' attitudes toward sport psychology, and to investigate the relationship between attitudes toward sport psychology and mindset.

Sport psychology is growing in popularity and is well documented as a meaningful resource to help athletes. Sport psychology is generally concerned with helping athletes optimize performance and live enriched, fulfilled lives. Research has shown that sport psychologists are in a unique position to help elite athletes and therefore it is important to gain an understanding of Canadian junior hockey players' attitudes toward sport psychology and working with a sport psychologist.

There are many significant reasons why I believe it is important to complete this research, for further information please contact me or read the attached research proposal.

Please contact me at 403-795-5410 or [robbie.shaw@uleth.ca](mailto:robbie.shaw@uleth.ca) for further information.

Thank you for your time and consideration,

Robbie Shaw

## Appendix B

### Email to Coaches

Dear coach,

My name is Robbie Shaw and I am a M.Ed. (Counselling Psychology) student at the University of Lethbridge conducting research under the supervision of Dr. Kerry Bernes. The research will involve players from your league and is part of a thesis investigating Canadian junior hockey players' attitudes toward sport psychology and seeking psychological assistance. I have received approval from the league commissioner and the University of Lethbridge ethics committee to contact you to request your team's participation in the current research.

The purpose of the research is to investigate WHL, AJHL, and BCHL hockey players' attitudes toward sport psychology and seeking psychological assistance. For a complete description of the research please see the attached research proposal.

Participation in the research will be anonymous as no identifying information will be required. The research will be conducted online and player's will be contacted via email.

If you choose to allow your players to participate, please send an email list to [robbie.shaw@uleth.ca](mailto:robbie.shaw@uleth.ca)

If you have any questions, please feel free to contact by email [robbie.shaw@uleth.ca](mailto:robbie.shaw@uleth.ca) or phone (403)795-5410

Thank you for your time and consideration,

Robbie Shaw

## Appendix C

### Email to Players

Dear Junior Hockey Player,

You are being contacted to participate in a study investigating Canadian junior hockey players' attitudes toward sport psychology because you are a junior hockey player. The researcher conducting the study has received approval from your league commissioner and head coach to contact you. All junior hockey players over the age of 18 in the AJHL, BCHL, and WHL are being asked to participate.

If you choose to participate, your results will be anonymous and no identifying information will be required. Furthermore, if you choose to quit at any time, your results will not be included in the research.

In this study, you will be asked to answer demographic questions, questions relating to hockey participation and experience with sport psychology, and complete two questionnaires. The first questionnaire is designed to gain an understanding of your mindset. The second questionnaire is designed to gain an understanding of your attitudes toward sport psychology.

The two questionnaires will take 10-20 minutes to complete. Once you have completed the questionnaires, please take a few minutes to read a message from the researcher.

Thanks for your time.

Robbie Shaw

## Appendix D

### Informed Consent Form

You are being invited to participate in a study entitled *What's the Mindset? An Investigation of Junior Hockey Players' Attitudes toward Sport Psychology* that is being conducted by Robbie Shaw. Robbie is a Master of Education (Counselling Psychology) student in the Faculty of Education at the University of Lethbridge and you may contact him if you have further questions at [robbie.shaw@uleth.ca](mailto:robbie.shaw@uleth.ca) or (403)795-5410.

As a Graduate student, I am required to conduct research as part of the requirements for a Master of Education degree. The research is being conducted under the supervision of Dr. Kerry Bernes. You may contact Dr. Bernes at [kerry.bernes@uleth.ca](mailto:kerry.bernes@uleth.ca) or (403)329-2434.

The purpose of the research is to investigate Canadian junior hockey players' attitudes toward sport psychology. Furthermore, the current research will investigate Canadian junior hockey players' implicit theories of the nature of athletic ability (i.e. mindset). Finally, the relationship between attitudes toward sport psychology and implicit theories of the nature of athletic ability will be assessed.

The objective of the current research is to gain a comprehensive understanding of Canadian junior hockey players' attitudes toward sport psychology and seeking psychological assistance, and to explore the relationship between implicit theories of the nature of the athletic ability and attitudes toward sport psychology.

You are being asked to participate in this study because you are a Canadian junior hockey player. If you agree to voluntarily participate in this research, your participation will include answering questions related to your hockey participation and experience with sport psychology, as well as completing two questionnaires. The questionnaires are the Sport Psychology Attitudes-Revised (SPA-R) and the Conceptions of the Nature of Athletic Ability Questionnaire-2 (CNAAQ-2). Participation will take 5-10 minutes.

The questionnaires included are psychological in nature. If completing the questionnaires causes psychological discomfort, contact the Canadian Mental Health Association crisis line for support: 1-886- 531-2600.

The potential benefits of your participation in this research include helping to: provide an understanding of Canadian junior hockey players' mindsets and attitudes toward sport psychology, improve the provision of sport psychology, and improve access to psychological services for athletes.

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study your data will be destroyed and not used in the current research. Once you have submitted your results, your data cannot be removed as it will be logistically impossible to remove your individual data.

To protect anonymity, participants will not be asked to provide identifying information. Your confidentiality and the confidentiality of the data will be protected by the researcher. The data from the SPA-R will be given to the creator of the instrument for psychometric analysis. The data from this study will be destroyed after a period of 5 years.

It is anticipated that the results of this study will be shared in a thesis, scholarly articles, academic/professional conferences, and a report to stakeholders involved.

In addition to being able to contact the researcher and the supervisor at the above phone numbers, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Chair of the Faculty of Education Human Subjects Research Committee at the University of Lethbridge (403-329-2425).

*\*You must be 18 years or older to participate\**

Selecting, Yes, I consent, indicates that you understand the conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher.

Please indicate if you consent to participate

Option 1: Yes, I consent.

Option 2: No, I do not consent.

## **Appendix E**

### **Sport Psychologist Description**

Sport Psychologists are Psychologists with expertise in sport. Sport Psychologists may help athletes improve performance, cope with sport-related issues, and manage their mental health.

For example, a Sport Psychologist may help an athlete reduce performance anxiety, improve visualization skills, cope with living in a new city, cope with depression etc.

Thus, sport psychologists may help athletes with sport-related and personal issues, to improve performance and well-being.

## Appendix F

### Study Description Following Participation

Thank you for participating in this study!

With your participation, you are helping provide a comprehensive understanding of Canadian junior hockey players' attitudes toward sport psychology and their mindset.

This research may make the following contributions:

1. It will provide a comprehensive understanding of Canadian junior hockey players' attitudes toward sport psychology and seeking psychological assistance.
2. It will add to existing literature on elite athletes' attitudes toward sport psychology and provide data for comparison with other sports and countries.
3. It may provide information relevant to the psychological services made available for Canadian junior hockey players.
4. It will add to research investigating the relationship between implicit theories and specific attitudes.
5. It will ascertain the relationship between implicit theories and attitudes toward sport psychology and seeking psychological help.
6. It may aid in the provision of sport psychology.

If your participation has caused you psychological discomfort and you would like to talk to someone please call the Canadian Mental Health Association crisis help-line 1-866-531-2600.

If you have questions related to the research, contact the lead researcher: Robbie Shaw via email [robbie.shaw@uleth.ca](mailto:robbie.shaw@uleth.ca)

The researcher sincerely thanks you for taking the time to participate.



## Appendix G

### Demographic Information

Age:

Race/Ethnicity: Caucasian, African, Asian, Indigenous, Not Listed.

What league do you currently play in: WHL, AJHL, BCHL?

Years played in the league you currently play in: 1 Year 2 Years 3 Years 4 Years 5 Years

Does your team have a Sport Psychologist or Mental Coach? Yes/No

Have you worked one-on-one with a Sport Psychologist? Yes/No

Have you worked with a Sport Psychologist in a team setting? Yes/No

Would you be willing to work with a Sport Psychologist? Yes/No

If access to a sport psychologist was provided by your team, would you work with the team sport psychologist? Yes/No

Select who you would prefer to seek help from for personal issues (e.g., depression; anxiety; relationship issues):

Counsellor, Sport Psychologist, Clinical Psychologist, Medical Doctor, Mental Coach.

Select who you would prefer to seek help from for performance issues and/or improvement:

Counsellor, Sport Psychologist, Clinical Psychologist, Medical Doctor, Mental Coach.

Have you been drafted to the NHL? Yes/No

Do you plan to pursue a professional hockey career following your junior career? Yes/No

Do you plan to pursue a University education following your junior career? Yes/No

## Appendix H

### Sport Psychology Attitudes—Revised (SPA—R)

Please indicate your level of agreement with each of the following statements by circling the response on the **answer sheet** that corresponds to your feelings toward each statement. Please respond to each statement as truthfully as you can.

Strongly Disagree (1) Disagree (2) Moderately Disagree (3) Neutral (4)  
Moderately Agree (5) Agree (6) Strongly Agree (7)

1. A sport psychology consultant can help athletes improve their mental toughness. CO
2. I respect the opinions of people of my own culture more so than those of people of another culture. CP
3. If an athlete asked my advice about personal feelings of failure related to sport, I might recommend that he/she see a sport psychology consultant. CO
4. I would not go to a sport psychology consultant because my teammates would harass me. ST
5. There are certain problems, which should not be discussed outside one's immediate family. PO
6. The athletes that I associate most with are of the same race and ethnicity as me. CP
7. A good idea for avoiding personal worries and concerns is to keep one's mind on a job. PO
8. To help me better understand myself as an athlete, I would like the assistance of a sport psychology consultant. CO
9. I would feel uneasy going to a sport psychology consultant because some people would disapprove. ST
10. There is something respectable in the attitude of athletes who are willing to cope with their conflicts and fears without resorting to professional help. PO
11. There are great differences between people of different ethnic backgrounds. CP
12. An athlete with emotional problems during sport performances would feel most secure in receiving assistance from a sport psychology consultant. CO
13. Having seen a sport psychology consultant is bad for an athlete's reputation. ST
14. There are experiences in my life that I would not discuss with anyone. PO

15. If I was worried or upset about my sport performance, I would want to get help from a sport psychology consultant. CO
16. Emotional difficulties tend to work themselves out in time. PO
17. I think a sport psychology consultant would help me perform better under pressure. CO
18. I would not want someone to know about me receiving help from a sport psychology consultant. ST
19. If I went to a sport psychology consultant, I would not want my coach to know about it. ST
20. A sport psychology consultant could help me fine-tune my sport performance. CO
21. If I went to a sport psychology consultant, I would not want other athletes to know about it. ST
22. At times I have felt lost and would have welcomed professional advice for a personal or emotional problem. CO
23. The coach would think less of me if I went to a sport psychology consultant. ST
24. Athletes with a strong character can get over mental conflicts by themselves. PO
25. I would be more comfortable with a sport psychology consultant if he/she were the same ethnicity, culture, or race as me. CP

## Appendix I

### Conceptions of the Nature of Athletic Ability-2 (CNAAQ-2)

Respondents will use a 5-point Likert scale to provide answers:

1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), 5 (strongly agree).

Please answer each question below. We are interested in your opinions. There are no right or wrong answers. Please select the number for each question that best represents your opinions.

1. We have a certain level of ability in sport and we cannot really do much to change that level.
2. To be successful in sport you need to learn techniques and skills, and practice them regularly.
3. Even if you try, the level you reach in sport will change very little.
4. You need to have a certain “gifts” to be good at sport
5. You need to learn and to work hard to be good at sport.
6. In sports, if you work hard at it, you will always get better.
7. To be good at sports, you need to be born with the basic qualities which allow you success.
8. To reach a high level of performance in sport, you must go through periods of learning and training.
9. How good you are at sports will always improve if you work at it.
10. It is difficult to change how good you are at sport.
11. To be good at sport you need to be naturally gifted.
12. If you put enough effort into it, you will always get better at sport.