

EXAMINING THE IMPACT OF MINDSET AND PERSONALITY ON ATHLETES'  
ATTITUDES TOWARD SPORTS PSYCHOLOGY CONSULTANTS

by

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## ABSTRACT

The use of sport psychology consultants at the collegiate level is steadily increasing. The aim of the present study was to examine the influence of mindset and personality to develop a better understanding of their impact on student-athletes attitudes toward sport psychology consultants in the United States. The Sport Psychology Attitudes – Revised form (SPA-R Martin, Kellmann, Lavallee, & Page, 2002) was administered to 220 NCAA student-athletes, both male and female, from a variety of individual and team sports. Results from the statistical analyses indicated that gender, ethnicity, growth mindset, and certain personality characteristics were significant predictors of athletes' attitudes toward sport psychology consultants. Specifically, in relation to personal factors, male athletes reported less openness to sport psychology consultants than female athletes. Athletes who identified as non-white showed a higher level of cultural preference toward sports psychology consultants than athletes' who identify as white. Additionally, athletes with a growth mindset athletic ability had more confidence in sport psychology consultants and showed less cultural preference and athletes' with a growth mindset athletic behaviors demonstrated less stigma toward sport psychology consultants. Three of the five dimension of the Big 5 personality were also significant predictors of certain dimensions of athletes' attitudes toward sports psychology consultants. These findings expand previous research investigating athletes' attitudes toward sport psychology consultants and provide important insights for the consultation process. Conclusions pertain to the implications for the field of applied sport psychology, specifically the influence of factors to help tailor training services that increase athletes' willingness to engage with sport psychology consultants.

## CHAPTER 1

### INTRODUCTION

Over the past decade, there has been a dramatic increase in participation rates at all levels of sport throughout the United States (Woods, 2011). Specifically, at the collegiate level, the student-athlete participation rate has experienced substantial growth. According to a recent National Collegiate Athletic Association (NCAA) report, the student-athlete participation rate has more than doubled over the last decade, with approximately 482,000 student-athletes competing on more than 19,000 teams (Irick, 2015). This rapid increase in student-athlete population has enticed researchers to examine, on a variety of levels, the factors that influence the academic and athletic performance of student-athletes.

A growing body of literature indicates that student-athletes are a distinct student population who are confronted with a unique range of social, emotional, and psychological challenges as they learn to balance the growing time demands of their academic and athletic pursuits (American Institute of Research, 1988; Carodine, Almond, & Gratto, 2001; Engstrom & Sedlacek, 1991; Goktas, 2010; Newell, 2015; Moreland, Coxe, & Yang, 2017; Pétrie & Russell, 1995; Sedlacek & Adams-Gaston, 1992; Ting, 2009; Watson, 2005; Watt & Moore, 2001; Wolverton, 2006; Young & Sowa, 1992). At the NCAA Division I level in particular, the environment is often viewed as a “pressure cooker” and is performance results driven, which intensifies the physical, emotional, and psychological stress placed on student-athletes to achieve optimal performance (Martin & Andersen, 2013; Wrisberg, Simpson, Lodberg, Withycombe, & Reed, 2009; Wrisberg, Withycombe, Simpson, Lodberg, & Reed, 2012). In light of the increased pressure placed on student-athletes, athletic departments must assume responsibility for

providing the necessary support staff to equip student-athletes with the skills to successfully manage the physical and psychological stress inherent with competing at the collegiate level.

While coaches are primarily responsible for assisting, guiding, and developing athletes, there are other key support staff involved in the process of managing athlete development at the collegiate level. Regarding the physical preparation, well-being, and performance of student-athletes, most NCAA athletic departments employ numerous support staff (e.g., team doctors, strength coaches, nutritionists, physical therapists, athletic trainers) on a full-time basis to support student-athletes with the physical demands of collegiate sports (Wrisberg et al., 2012; Zakrajsek, Martin, & Wrisberg, 2015). Over the past few decades, considerable attention has been dedicated to examining student-athletes' performance and well-being from a physical perspective (Granelli et al., 2014; Grooms, Palmer, Onate, Myer, & Grindstaff, 2013; Hootman, Dick, & Agel, 2007; Nadler et al., 2001; Palmer, Howell, Hewett, Viele, & Mattacola, 2015; Poiss, Sullivan, Paup, & Westerman, 2004; Sygulla & Fountaine, 2014; Warren, Smith, & Chimera, 2015). While this research is valuable and provides important insights, it only addresses one dimension of the athlete's wellbeing and performance.

Athletes, coaches, and researchers alike recognize that at the higher levels in sport inconsistencies in performances can often also be attributed to the inability to manage psychological factors (e.g., confidence, concentration, arousal regulation, and anxiety management), as much as physical factors (Cox, 2007; Ferraro & Rush, 2000; Moran & Toder, 2017; Porter, 2003; Vealey, 2005; 2007). Often the ability to produce optimal performance is not just the result of physical abilities but also the result of psychological preparation, awareness and skill (Bechmann & Ible, 2015; Dehghani & Ebrahimi, 2017; Porter, 2003) and thus "many prominent athletes and coaches believe that although sport is played with the body, it is won in

the mind” (Moran & Toder, 2017, p.5). It is for this reason that many athletes and athletic programs seek the services of sport psychology consultants when they struggle to produce optimal performance in a competitive setting (Rothlin, Birrier, Horvath, & Holtforth, 2016; Voight & Callaghan, 2001; Zakrajsek et al., 2013). One population that could greatly benefit from the support provided by a sport psychology consultant are collegiate athletes because they have to deal with the excessive pressure to win which can influence performance and wellbeing (Martin & Andersen, 2013; Wrisberg et al., 2009; Wrisberg et al., 2012).

Sport psychology consultants are uniquely qualified to creatively integrate and strategically develop the psychological skills necessary to produce optimal athletic performance in a competitive setting (Beckhmann & Ible, 2015; Tennebaum & Eklund, 2007; Vealey, 2005). Recently, researchers have examined athletes, coaches, and administrators, to develop a deeper understanding of their attitudes toward sport psychology consultants and the impact of their services on athlete performance and well-being (Barker & Winter, 2014; Birrer, Wetzel, Schmid, Morgan, 2012; Chandler, Eubank, Nesti, & Cable, 2014; Green, Morgan, & Manley, 2012; Martin, Kellman, Lavallo, & Page, 2002; Martin, Zakrajsek, & Wrisberg, 2012; Sharp & Hodge, 2014; Thelwell, Wood, Hardwood, Woolway, & Van Raalte, 2017; Wilson, Gilbert, Gilbert, & Sailor, 2009; Wrisberg, Loberg, Simpson, Withycombe, & Reed, 2010; Zakrajsek et al., 2011; Zakrajsek, Steinfelt, Bodey, Martin, & Zizzi, 2013; Zakrajsek, Fisher, & Martin, 2016).

Results from several studies indicate that a high percentage of coaches, researchers, athletes, parents, perceive sport psychology consultants and their services as an important aspect of athlete preparation for competition (Fifer, Henschen, Gould, Ravizza, 2008; Figone, 1999; Freitas, Dias, & Fonseca, 2013; Grobbelaar, 2007; Hardy, Jones, & Gould, 1996; Wrisberg et al., 2010; Loberg, Simpson, Withycombe, & Reed, 2010), athlete development performance

enhancement (Thelwell et al., 2017), recovery and stress (Kuan & Kueh, 2015), athlete well-being (Thelwell et al., 2017) as well as perceptions of success (Frey, Laguna, and Ravizza, 2003). However, only a small percentage of coaches' successfully implement psychological skills training programs (Grobelaar, 2007) because of limited knowledge, lack of time, lack of athlete interest, lack of models, lack of funding, or understanding of how to effectively teach psychological skills and strategies to their athletes (Figone, 1999; Freitas, Dias, & Fonseca, 2013; Gould, Medbery, Damarjian, & Lauer, 1999; Johnson, Andersson, Fallby, 2011; Pain & Hartwood, 2004). For these reasons studies suggest that the key to improving the psychological preparation, and thus performance, of athletes is through the systematic and consistent implementation of psychological skills training programs delivered by certified sport psychology consultants (Figone, 1999; Ferraro & Rush, 2000; Hanrahan, Grove, & Lockwood, 1990).

Recently, interest in the psychological factors that influence athletic performance has grown steadily at the collegiate level in particular (Boroujenia & Shahbazi, 2011; Horn, Gilbert, Gilbert, & Lewis, 2011; Kornspan & Duve, 2006; Massey et al., 2015; Wrisberg et al., 2010; 2012) and has resulted in the increased involvement of support staff such as sports psychology consultants (Hayden, Kornspan, Bruback, Parent, Rodgers, 2013; Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wilson et al., 2009; Wrisberg et al., 2012). According to Bemiller and Wrisberg (2011) the "emergence of sport psychology consultants (SPCs), and psychological skills training (PST), as a significant component of athletes' competition preparation is a relatively recent phenomenon" (p. 227). Although sport psychology consultants are recent additions, and are not yet universally accepted and integrated into athletic department staff (Voight & Callaghan, 2001; Zakrajsek et al., 2013), interest in their services is growing across a variety of sport settings and levels. Contemporary literature indicates that between 24%-50% of

NCAA athletic departments contract sports psychology consultants on a part-time or full-time basis (Hayden, Kornspan, Bruback, Parent, Rodgers, 2013; Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wilson et al., 2009). The growing influence and importance of sport psychology consultants is highlighted by recent reports, which indicate that the majority of university presidents, athletic directors (Wrisberg et al, 2012), and coaches (Grobbelaar; 2007; Wrisberg et al., 2010) see the role of sport psychology consultants as beneficial. In light of the growing interest and integration of sport psychology consultants in athletic departments, it is incumbent for consultants to gain a better understanding of how they are viewed by athletes, coaches and administrators (Martin et al., 2012; Murphy, 2012) and to examine how to deliver their services more effectively (Hays, 2012; Zakrajsek et al., 2013) because the collective understanding regarding their role and influence remains limited (Wrisberg et al., 2009).

The work, value, and attitudes toward sport psychology consultants and the services they provide during competition continues to receive attention at a variety of levels including youth, high school, collegiate, professional and at the Olympic level (Arnold & Sarkar, 2014; Barker & Winter, 2014; Birrer, Wetzel, Schmid, Morgan, 2012; Blakeslee & Goff, 2007; Brooks & Bull, 1999; Camire & Trudel, 2014; Calmels, Berthoumieux, & D'Arripe, 2004; Freitas, Dias, & Fonseca, 2013; Frey, Laguna, Ravizza, 2003; Gould, Murphy, Tammen, & May, 1999; Gould & Maynard, 2009; Green et al., 2012; Horn, et al., 2011; McCann, 2008; Martin, 2005b; Miçooğulları, 2016; Sharp et al., 2014; Sheard & Golby, 2006; Thelwell et al., 2017; Williams & Andersen, 2012; Wrisberg et al., 2009; Wylleman & Johnson, 2012; Zakrajsek, Martin, & Zizzi, 2011). The results from a number of these studies indicate that athletes, coaches, and administrators perceive sport psychology consultants positively and are open to the services they provide. For example, recent studies investigating the perception of sport psychology consultants

by coaches, especially those with sport psychology knowledge and experience, are more confident in, receptive to engage with, and willing to encourage their athletes to engage in the services provided by sport psychology consultants than coaches with limited knowledge and experience (Wrisberg et al., 2010; Zakrajsek, & Zizzi Zakrajsek, 2007; Zakrajsek, Martin, and Zizzi, 2011). Moreover, findings from recent studies suggests that one of the primarily motivations for athletes and coaches working with sport psychology consultants is to improve athlete development, enhance performance, and performance related-outcomes (Green et al., 2012; Lubker et al., 2008; Thelwell et al., 2017; Wrisberg et al., 2009; Wrisberg et al., 2010).

The primary role of a sport psychology consultant is to assist athletes in achieving optimal performance by equipping them with the psychological skills, strategies and tools that allow them to cope with the stress, anxiety, and pressure prior to and during competition (Beckmann & Elbe, 2015; Blumenstein & Orbach, 2012; Freitas, Dias, & Fonseca, 2013; Frey, Laguna, Ravizza, 2003; Hamberger & Iso-Ahola, 2006; Martin, Kellman, Lavallo, & Page, 2002; Martin, Zakrajsek, & Wrisberg, 2012; Portenga, Aoyagi, Balague, Cohen, & Harmison, 2011; Rothlin et al., 2016; Weinberg & Gould, 2015; Winter & Collins, 2016). In other words, sport psychology consultants work to improve an athletes cognitive processes by developing psychological skills which have been shown to be an important part of athlete preparation (Beckmann & Elbe, 2015; Bluemenstein & Orbach, 2012; Fifer et al., 2008) and are believed to enhance performance and perceptions of success (e.g., Blakeslee & Goff, 2007; Frey et al., 2003; Lim & O'Sullivan, 2016; Thelwell & Greenless, 2001; Thellwell & Maynard, 2003; Thelwell, Greenlees, & Weston, 2006).

At the higher levels of sport, in particular, the psychological stress and pressure placed on athletes, as a result of the emphasis on winning, is greater and thus it can often be more difficult

for athletes to maintain their focus and enter the flow state deemed necessary for peak performance (Lim & O'Sullivan, 2016). The ability to produce optimal performance, especially in result driven environments, requires athletes to be mentally prepared prior to and during competition and this is where the role of the sport psychology consultant, and the services they provide, becomes an integral part of athlete preparation and performance (Beckmann & Ible, 2015; Bemiller et al., 2011; Blumenstein & Orbach, 2012; Hardy, Jones & Gould, 1996; Moran & Toner, 2017). Consulting at the higher levels in sport often involves a relationship between the consultant and athlete that includes an ongoing process of learning via “one-on-one conversations...and exploring past and present performance. The role is often one of facilitation – facilitating awareness and deep understanding of one’s performance, and then facilitating skill development to enhance future performance” (Werthner & Coleman, 2009, p. 6).

To be effective, consultants must possess the knowledge, experience, and skill to recognize that an athlete’s personality and attitudes toward the consultants is critical to how receptive an athlete is to engaging in the consultation process (Leffingwell, Rider, & Williams, 2001; Murphy, 2012). Athletes and coaches who adopt an attitude that sport psychology consulting is beneficial for performance demonstrate a higher level of intention to engage in their services than those who do not (Martin et al., 2012). According to Martin et al., (2012) “it appears that by addressing general attitudes...with athletes, consultants can not only effect positive shifts in cognition and attitudes toward services but also enhance athletes readiness to consider mental skills training” (p.21). Developing a receptive attitude toward consultants is critical as the contemporary literature is replete with examples of how sport psychology consultants through psychological skills training programs play an important role in developing performance related psychological variables (i.e., self-confidence, coping skills, goal setting,



self-talk, imagery, arousal regulation, mental toughness) (Birrer & Morgan, 2010; Kuan & Kueh, 2015; Dehghani & Ebrahimi, 2017; Hatzigeorgiadis, Zourbanos, Galanis, & Theodorakis, 2011; Gould, Voelker, Damarjian, & Greenleaf, 2014; Malouff, McGee, Halkford, & Rooke, 2008; Micoogullari, 2016; Tod, Hardy, & Oliver, 2011a; Von Guenther, Hammermeister, Burton, & Keller, 2010) as well as athlete task behavior and performance across various sports (Chang, Ho, Lu, Ou, Song, & Gill, 2014; Gharayaghzandi, Dhghani, & Masoumi, 2014; Hatzigeorgiadis, Theodorakis, & Zourbanos, 2004; Johnson, Hrycaiko, Johnson, & Halas, 2004; Kim, 2003; Lim & O’Sullivan, 2016; Malouff et al., 2008; Mellalieu, Hanton, O’Brien, 2006; Micoogullari, 2016; Sheard & Golby, 2006; Thelwell & Greenless, 2001; Thelwell & Maynard, 2003; Thelwell, Greenless, & Weston, 2006; Ward & Carnes, 2002).

While the results from the aforementioned studies provide several important insights and reinforce the positive impact of sport psychology consultants and their services, ongoing investigations of athlete’s attitudes, beliefs, and perceived barriers toward sport psychology consultants is warranted to amass a comprehensive research base (Martin et al., 2012). The need for continued research centers on the need to address unanswered questions pertaining to why some athletes, who despite benefitting from the support provided by sport psychology consultants, are often hesitant, or not ready, to utilize their services more frequently (Anderson, 2005; Ferraro & Rush, 2000; Gardner, 2001; Maniar, Curry, Sommers-Flanagan, & Walsh, 2001; Martin, 1998; Massey, Meyer, & Hatch, 2011; Massey, Gnacinski, & Meyer, 2015; Ravizza, 1988; Syed Mud & Hamish, 2013; Wisberg et al., 2009). As noted by Ponnusamy and Grove (2014) “effective delivery of sport psychology services requires that consideration be given to numerous personal, interpersonal, and situational factors” (p.638). One of the personal factors

that primarily influence the usage of the sport psychology consultants is an athlete's attitude (Fortin-Guichard et al., 2017; Leffingwell, Rider, and Williams, 2001; Martin et al., 2012).

Therefore, it is important for consultants to develop an understanding of the various factors that influence an athlete's attitude toward sport psychology consultants (Martin et al., 2002; 2012). Research of this nature will help practitioners identify the strengths of the athlete's attitudes (Martin et al., 2012) and recognize the importance of tailoring their services and interventions to best meet the needs of their athletes (Tod et al., 2009; 2011b). In doing so, this can help to make athlete and coaches more receptive and in turn increase their confidence in consultants, which research shows is a strong predictor of adherence to psychological skills training programs (Anderson et al., 2004; Bull, 1995; Zakrajsek et al., 2011).

### **Statement of the Problem**

The benefits of using psychological skills training are well-documented and include improved attentional and concentration techniques (Morgan, 2000; Orlick & Partington, 1988; Wilson, Schmidt, & Peper, 2006), enhanced practice and competition performance (Frey, Laguna, & Ravizza, 2003), anxiety management (Fletcher & Hanon, 2001; Mamassis & Doganis, 2004; Miccogullari, 2016), greater emotional control (Lazarus, 2000), psychological wellbeing (Miccogullari, 2016), ability to deal with pressure (Beilock & Carr, 2001), recovery and stress (Kuan & Kueh, 2015), increased perception of success in practice and competition (Frey et al., 2003), and increases in athlete confidence (Myers, Wolfe, & Feltz, 2004; Miccogullari, 2016). Moreover, psychological skills training techniques have been shown to facilitate injury rehabilitation (Arvinen-Barrow, Clement, Hamson-Utley, et al., 2015; Driediger, Hall, Callow, 2006; Hare, Evans, Callow, 2008; Naylor, 2009), life skills, goal setting, problem solving and sport skills (Papacharisis, Goudas, Danish, & Theodorakis, 2005), cognitive

restructuring to enhance stress management skills (Zinsser, Bunker, & Williams, 2006), reduce elements of burnout (Gould, Tuffey, Udry, & Loehr, 1996a; 1996b; 1997) as well as enhanced psychological wellbeing (PWB) (Micoogullari, 2016). Taken together, the results from these studies demonstrate the benefits and effectiveness of sports psychology consultant services on sports performance and performance-related variables across different sports settings.

Surprisingly, in spite of empirical evidence regarding the positive impact psychological skill training programs has on performance, many athletes, for different reasons, remain reluctant to seek assistance from professional support staff such as sport psychology consultants (Anderson, Hodge, Lavalley, & Martin, 2004; Ferraro & Rush, 2000; Gardner, 2001; Maniar, Curry, Sommers-Flanagan, & Walsh, 2001; Martin, 1998; Martin, 2005; Martin, Kellman, Lavalley, & Page, 2002; Martin, Lavalley, Kellmann, & Page 2004; Martin, Wrisberg, Beitel, & Lounsbury, 1997; Ravizza, 1988; Syed Mud & Hamish, 2013; Wrisberg et al., 2009; Wrisberg et al., 2010; Zakrajsek et al., 2011; Zakrajsek & Zizzi, 2007; Zakrajsek & Zizzi, 2008). An athlete's willingness to engage with a sport psychology consultant is significantly influenced by the athlete's attitude toward the services they provide (Leffingwell et al., 2001; Martin et al., 2012; Hays, 2012). According to Pearson (2006) "an attitude is a mode of behavior that is thought to be the typical response to an individual. Attitudes are invariably associated with personality and are believed to influence a response or behavior in a given situation" (p. 204). In terms of consulting, it stands to reason that "if attitudes toward sport psychology consultants (SPC) are positive, then it should follow that treatment acceptability of SPC's should be favorable as well" (Hamberger & Iso-Ahola, 2006, p. 58). In other words, an individual's attitude is an important factor that can positively or negatively influence his or her receptiveness to others (i.e., sport psychology consultants) and the services (i.e., psychological skills training) they provide.

As sport psychology usage rates increase at the collegiate level (Wilson et al., 2009), it is important for practitioners to develop a better understanding of the various factors that influence an athlete's attitude toward sport psychology consultants as this allows consultants to specifically tailor their services to meet the needs of each individual athlete (Hamberger & Iso-Ahola, 2006; Lavallee, Jennings, Anderson, & Martin, 2005). Despite advances in research, a review of contemporary literature reveals that gaps remain in the sport psychology literature regarding the factors that influence an athlete's attitude toward sport psychology consultants and the services they provide (Lavallee et al., 2005; Martin et al., 2012; Massey, 2013; Wrisberg et al., 2010). Therefore, there is a need for continued examination of the factors that influence and athletes attitude (Hamberger & Iso-Ahola, 2006; Martin et al., 2012) because research of this nature has the potential to enhance the effective functioning of the consultation process (Hays, 2012). Developing a deeper understanding of the factors that positively influence and athletes attitude can only help to enhance an athletes' knowledge and intentions to use sport psychology services (Martin et al., 2012) which in turn can improve confidence which is considered an important personal characteristic relating to level of engagement and commitment to psychological skills training programs (Bull, 1995; Martin et al., 2012).

While past and recent studies highlight the effectiveness of psychological skills training and affirm the role of sport psychology consultants, there remains a need to amass a stronger research base in order to address existing gaps in the sport psychology consulting literature (Lavallee et al., 2005; Martin et al., 2012). An examination of contemporary literature reveals that, although impactful, many of the aforementioned studies examining psychological skills training give little consideration to underlying psychological factors that influence an athlete's attitude toward working with sport psychology consultants (Martin et al., 2012). The need to

address this aspect of the consultation process is reiterated by Lavalley et al., (2005) who states that “as the provision of sport psychology increases, practitioners need a greater understanding of athletes’ attitudes toward sport psychology so they can tailor their services [psychological skills training] to best meet the needs of athletes” (p. 115). The need for further investigation is accentuated by the fact that “relatively little is known about the receptivity of student-athletes and coaches to a role for a Sports Psychology Consultants...and their willingness to use mental [psychological] training services” (Wrisberg et al., 2010, p. 490).

Therefore, in order to enhance sport psychology practice, continued examining of the factors that influence an athlete’s attitude toward sport psychology consultants and their services (i.e., psychological skills training) is required (Lavalley et al., 2005). This line of research may provide important insights into why some athletes are not ready to engage in the consultation process (Massey et al., 2011; Massey et al., 2015) and why others remain hesitant to take advantage of the well-documented benefits of working with a sport psychology consultant (Anderson, 2005; Ferraro & Rush; Mainar et al., 2001; Martin, 2005; Martin, 1998; Ravizza, 1988; Syed Mud & Hamish, 2013; Wrisberg et al., 2009). In an attempt to gain more insight, and close this gap in the literature, a recent line of research has centered on examining factors that influence athletes’ perceptions, expectations, and attitudes (Anderson, et al., 2004; Donohue et al., 2004; Dunn & Holt, 2003; Green, Morgan, & Manley, 2012; Johnson, Andersson, & Fallby 2011; Lavelley, Jennings, Anderson, & Martin, 2005; Lubker, Visek, Watson, & Singpurwalla, 2012; Syed Mud et al., 2013; Martin et al., 2001; Martin, Lavalley, Kellmann, & Page, 2004; Martin, Vause, & Schwartzman, 2005; Pain & Harwood, 2004; Wrisberg, Simpson, Loberg, Withycombe, & Reed, 2009), coaches’ attitudes (Kasiulis & Garbaliuskas, 2010; Wrisberg et al., 2010; Zakrajsek et al., 2007), as well as administrators’ attitudes (Wilson et al., 2009;

Wrisberg, et al., 2012) toward sports psychology consultants. Although previous research provides insight into some of the factors that influence athletes' attitudes toward sports psychology consultants, gaps remain in the sports psychology literature. Therefore, ongoing investigation is necessary as studies indicate there remains a lack of understanding regarding certain populations attitudes toward sports psychology consultants (Wrisberg et al., 2010).

Developing a more robust understanding of potential influential factors is of critical importance to applied sport psychology researchers (Martin et al., 2012; Lubker, Visek, Watson, & Singpurwalla, 2012) as it allows for practicing consultants to specifically tailor their services to meet the needs of each individual athlete (Hamberger & Iso-Ahola, 2006; Lavellee et al., 2005; Martin et al., 2002). Enhancing the consultation process will help improve overall effectiveness as well as the athletes' adherence to a well-designed psychological skills training programs by identifying the most attractive strategies and developing a more engaging rapport with athletes (Martin et al., 2012). Given the strong evidence in support of sport psychology consultants, it is important for consultants to be aware of the factors that influence an athlete's attitude toward consulting services because this plays a significant role in the consultation process (Martin et al., 2012; Hays, 2012). A review of the literature related to sports psychology consultants reveals two areas of study that have received limited attention; the influence of personality (Lavallee et al., 2005; Martin, 2004; Allen et al., 2013) and mindset (Dweck, 2006). Therefore, an examination of their independent, or interconnected, influence on athletes' attitudes toward sport psychology consultants would undoubtedly help to expand the existing body of literature.

### **Personality**

While there are numerous definitions, the consensus is that personality refers to “psychological qualities that contribute to an individual’s enduring and distinctive patterns of feeling, thinking and behaving” (Cervon & Pervin, 2010, p. 8). The role of personality, as a predictor of behavior and performance, has been examined in a variety of settings and there is ongoing interest in the influence of personality in sports participation and performance (Allen, Greenlees, & Jones, 2011; Allen, Greenless & Jones, 2013; Allen & Laborde, 2014; Egloff & Gruhn, 1996; Hunenberg & Gould, 2015; Nai & Besharat, 2010; Ogilvie, 1968; Otten, 2009; Sindik, 2011; Sohrabi et al., 2011; Talyabee, Moghadam, & Salimi, 2013; Teshome, Mengistu, & Becker, 2015; Tok, 2011; Tran, 2012; Dowd & Innes, 1981). Personality literature suggests certain personality traits are useful indicators for predicting athletic performance at the national level (Allen, Greenlees, & Jones, 2011), Paralympic level, (Martin, Malone, & Hilyer, 2011) and various other levels (Aidman, 2007). Therefore, to a certain degree, an athlete’s performance can, in part, be predicted by their personality traits (Allen & Ladorbe, 2014; Weinberg & Gould, 2015). If aspects of an athletes personality influences the quality of the preparation leading up to competition and coping (Woodman, Zourbanos, Hardy, Beattie, & McQuillan, 2010) and how athletes cope or respond during competition (Woodman, Davis, Hardy, Callow, Glasscock, & Yuill-Proctor, 2009; Woodman, et al., 2009), and these responses directly or indirectly impact performance, it draws greater attention to “the practical relevance of personality research to sport psychology consultants” (Allen et al., 2013, p. 26).

While the impact of personality on sports performance is well-documented, there is a dearth of research examining the effects of personality on the sport psychology consultant and athlete consultation process (Allen et al., 2013; Allen & Laborde, 2014). However, research of this nature is necessary as “this information would be particularly valuable to those working in

both amateur and professional sport settings and is an important avenue for future sport personality research” (Allen et al., 2013, p. 26). In order for effective consultation to take place, sport psychology consultants must be aware of their own personality as well as that of their athletes’ in order to understand the effect it may have on the athletes’ attitude toward sport psychology consultants and their willingness to engage in their services (Allen et al., 2013; Murphy, 2012). The reason personality is considered an important contributing factor is because a participant’s level of engagement and commitment to program adherence and performance-change recommendations can often be contingent on their interactions with their consultant (i.e., service provider) and these interactions are often influenced by personality traits (Cuperman & Ickes, 2009). Therefore, sport psychology consultants would do well to consider personality traits of athlete’s when developing and implementing psychological skills training programs and evaluating the effectiveness of their programs.

The need to further examine the influence of personality is noted by multiple researchers who highlight that few researchers have considered the potential impact of factors such as "personality type” on athletes’ attitudes toward sport psychology consultants and their willingness to engage in psychological skills training for performance improvements (Allen, Greenlees, & Jones, 2013; Lavalley et al., 2005; Martin et al., 2004). According to Allen et al., (2013) the relevance of personality research in relation to the sport psychology and the athlete consultation process is that it builds on the existing literature because it extends beyond the discussions regarding the content or impact of interventions (e.g., psychological skills training programs) and places emphasis on the factors that influence consultant-athlete interactions and the manner in which services are delivered (by coaches) and received (by athletes). To be effective, sports psychology consultants must be conscious of the impact personality has on “the



engagement in acceptance of recommended intervention strategies [psychological skills training]” (Allen, Greenlees, & Jones, 2013, p. 26). Developing a complete understanding of the influence of personality can only benefit and improve the effectiveness of the strategies provided by sports psychology consultants (Allen & Ladorde, 2014). If shown to be influential, personality and potential conflicts in personality between consultants and athletes may need to be considered as important factors when designing, implementing and preparing athletes to engage in a psychological skills training program.

### **Mindset**

Considering the well-documented positive impact that mindset has on individual performance in domains such as academics and athletics (Dweck, 2006), and the benefits of sport psychology consultants on athlete performance, it is of interest to understand the ways in which mindset influences an athlete’s attitudes toward sports psychology consultants. The need to further investigate the impact of psychological factors is underlined by Massey et al., (2015) who showed that psychological states are an important consideration when designing and delivering psychological skills programs.

According to Dweck (2006), mindset is the lens or frame of mind which orients an individual to a particular set of beliefs and expectations which in turn influence the attitude toward his or her abilities in specific domains. Athletes who adopt a fixed mindset assume they were born with a certain amount of ability (i.e., fixed ability) that cannot or need not be changed or developed. In other words, one’s level of ability is set. Conversely, athletes who adopt a growth mindset uphold the belief that their abilities can be developed through effort over time and dedication to the improvement process (Dweck 2006; Dweck 2009). As such, individuals with a growth mindset are more likely to invest time into the development process and are often

more open and receptive to opportunities that can enhance their performance. In the context of sport psychology, athletes with growth mindset believe that their psychological abilities behaviors are malleable and thus may be more open and receptive to toward sport psychology consultants because they believe they can help improve the athletes' psychological performance. Conversely, athletes with a fixed mindset do not believe their psychological abilities can be developed further and thus may have more closed attitudes toward sport psychology consultants. The question yet to be answered by the literature is whether an athlete's mindset is a factor that directly affects an athlete's attitude toward sport psychology consultants.

Dweck's (2006) work on mindset highlights the influential role mindset has on an individual's psychological state in an academic and athletic setting, and could similarly influence an athlete's attitude and receptiveness toward sport psychology consultants. It stands to reason that athlete with a growth mindset are more positively associated with the desire to seek psychological support and thus will adopt a more open attitude toward sport psychology consultants. Conversely, athletes with a fixed mindset, who believe their abilities are fixed and cannot be improved, are less likely to have a receptive attitude toward sport psychology services. Developing an understanding of the influence psychological processes, such as mindset, have on the consultation process can only benefit and improve the effectiveness of the strategies provided by sports psychology consultants. If shown to be influential, mindset may need to be incorporated as an important factor when designing, implementing and preparing athletes to engage in psychological skills training programs.

To date, the impact of mindset and personality on student-athletes' attitudes toward sports psychology consultants has yet to be explored or empirically established. Consequently, their independent and interconnected relationship and influence on athletes' attitudes toward

sport psychology consultants remains unclear. The aim of this study is to address the existing gap in the sport psychology literature by examining the role of psychological factors such as personality (Allen et al., 2013; Allen et al., 2014; Lavallee et al., 2005; Martin et al, 2004) and mindset (Dweck, 2006). The results of this research may help clarify the influence of student-athletes' personality and mindset on attitudes toward sport psychology consultants.

### **Purpose of this Study**

The purpose of this study is to address the gap identified by various researchers within the sport psychology literature by examining the influence of personality (Allen et al., 2013; Lavallee et al., 2005; Martin et al., 2004) and mindset (Dweck, 2006) on student-athletes' attitudes toward sports psychology consultants.

### **Research Questions**

The following research questions will be addressed in this study:

1. What are the background characteristics of the participants in this study?
2. To what extent is there a statistically significant difference in athletes' attitudes (i.e., Lack of Openness to, Confidence in, Stigma toward, and Culture Preference) toward sport psychology consultants based on: a) gender b) ethnicity and c) year of school?
3. To what extent is there a statistically significant relationship between student athletes' mindsets and attitudes toward sports psychology consultants; specifically, a) Lack of openness to sport psychology consultant b) Confidence in sports psychology consultants, c) Stigma toward sport psychology consultant, d) Cultural preference toward sport psychology consultant?
4. To what extent is there a statistically significant relationship between student athletes' attitudes (i.e., Lack of Openness to, Confidence in, Stigma toward, and Culture Preference) toward sport psychology consultants and personality including the following

constructs a) Extroversion, b) Agreeableness, c) Conscientiousness, d) Neuroticism, and e) Openness?

5. To what extent do gender, ethnicity, year in school, type of sport, mindset (i.e., growth mindset toward ability and growth mindset toward athletic behaviors), and personality (i.e., Extroversion, Agreeableness, Conscientiousness, Neuroticism, Openness) predict a) Lack of openness toward sport psychology consultants, b) Confidence in sport psychology consultants, and c) Stigma toward sport psychology consultants, d) Cultural preference toward sport psychology consultants?

### **Significance of the Study**

This study addresses the gap highlighted by previous researchers regarding the influence of personality (Allen et al., 2013; Lavalley et al., 2005; Martin et al., 2004) and unexamined psychological processes (Massey et al., 2015) such as mindset on student-athletes' attitudes toward sport psychology consultants. Recent research indicates that personal factors (i.e., gender, cultural influences, previous sport psychology consultants' experience and knowledge), sport-related factors (i.e., sport type, level of competition) (Fortin-Guichard et al., 2017; Martin et al., 2012) as well as psychological processes (Massey et al., 2015) influence an athlete's attitude toward sport psychology consultant services. However, as noted earlier "relatively little is known about the receptivity of student-athletes...and their willingness to use mental training services" (Wrisberg et al., 2010, p. 490). Therefore, this study answers the call for continued research and thus address the gap that exists in the sports psychology literature by investigating unexamined psychological constructs (i.e., mindset and personality) that have the potential to influence athletes' attitudes toward sport psychology consultants (Fortin-Guichard et al., 2017; Martin et al., 2012; Martin et al., 2004).

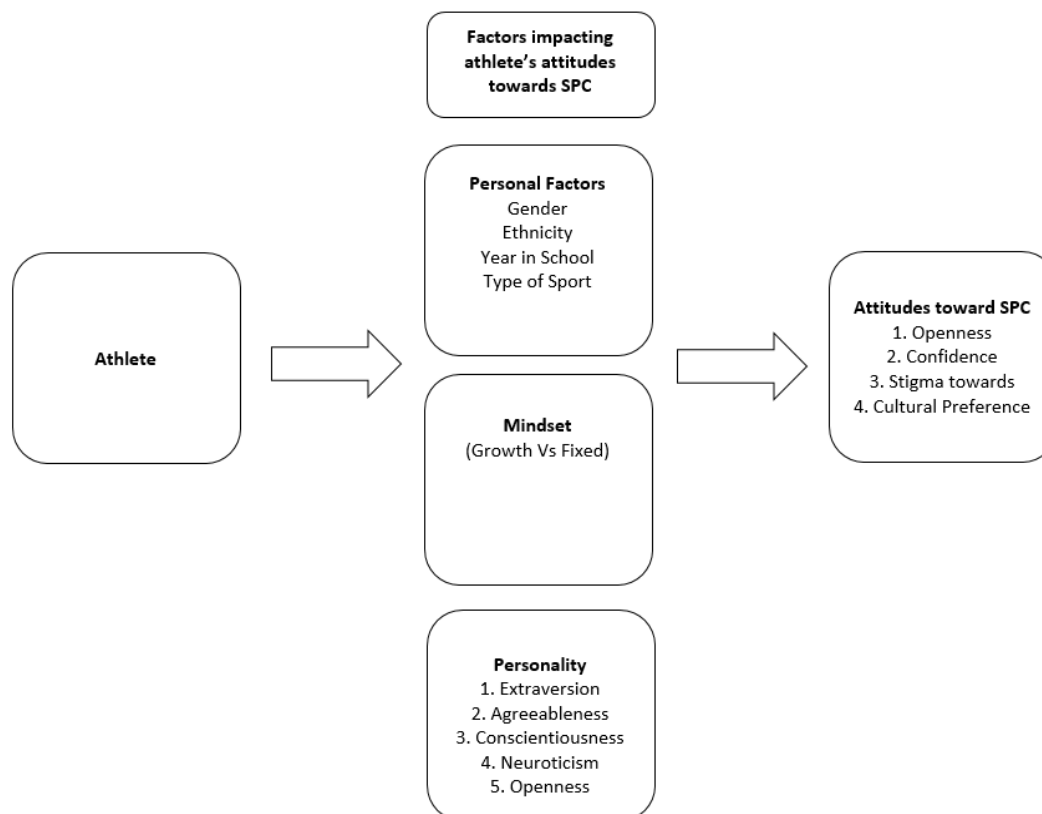
Additionally, this study has potential implications for sport psychology consultants, the manner in which they deliver their services, and their behavior modification and intervention strategies. The results from this study help provide valuable insight into the independent and interconnected impact of mindset and personality on athletes' attitudes toward sports psychology consultants and thus enhance service delivery by sport psychology consultants to different athlete clientele. Additionally, research of this nature helps to provide important insight into the factors that influence athlete's engagement and receptiveness to sport psychology consultant services. In order to maximize the effectiveness and adherence to psychological skills training, mindset and personality should be considered as key factors during the preparation, designing, and implementation of psychological skills training program delivered by sport psychologists.

In light of growing interest, involvement, and integration of sport psychology consultants within athletic departments (Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wrisberg et al., 2010; Wrisberg et al., 2009; Zakrajesk & Zizzi, 2007; Zakrajesk et al., 2011; Zakrajesk et al., 2013; Zakrajesk et al., 2015), at the collegiate level in particular, it is important that sport psychology consultants are as informed as possible about the factors that influence an athletes engagement, acceptability, and attitudes toward the services (Hamberger & Iso-Ahola, 2006; Martin et al., 2012).

### **Conceptual Framework**

A conceptual framework is a set of broad ideas and is necessary because it provides a study with a sound structure and theoretical foundation (Berman, 2013; Smyth, 2004) and serves as a way of linking each elements of the research process such as researcher disposition, interest, and positionality, context and setting, formal and informal theory and methods (Ravitch & Riggan, 2012; Ravitch & Riggan, 2017). In other words, a conceptual framework "has potential

usefulness as a tool to scaffolds research and, therefore, assist a researcher in making meaning of subsequent findings” (Smyth, 2004, p.1) as well as provide a strong “argument about why the topic one wishes to study matters” (Ravitch & Riggan, 2012, p. 7) and helps to influence and direct the researchers’ approach regarding collecting, analyzing, describing, and interpreting data (Berman, 2013; Leshem & Trafford, 2007; Ravitch & Riggan, 2012; Ravitch & Riggan, 2017). According to Ravitch & Riggan (2012), the overarching benefit and need for a conceptual framework is that it allows the researcher “to make reasoned, defensible choices about how he or she might explore research topics or themes...and explore existing research questions in new contexts, or reexamine established topics or questions using different theoretical or epistemological frames” (p. 14). The conceptual framework within this study was informed by the sport psychology research literature (Martin et al., 2012). See Figure 1.1 for a visual display of the conceptual framework.



*Figure 1.1* Visual Model of conceptual framework for predicting athletes' attitudes toward sport psychology consultants

### Personal Factors

Previous studies investigating collegiate student-athletes' attitudes toward sport psychology consultant have helped identify and examine potential barriers that influence an athletes desire to seek assistance (Kasiulis & Garbaliuskas, 2010; Maniar et al., 2001; Martin, 2005; Martin et al., 2002; Martin et al., 1997; Martin et al., 2012; Wrisberg et al, 2009).

Researchers have uncovered a number of reasons why athletes do not take advantage of the services provided by sport psychology consultants. At a basic level, one of the reason athletes are reluctant to engage with sport psychology consultants is “a lack of understanding about the process and the mechanisms by which psychological skills affect performance” (McGee, 2010, p. 386). Consequently, it is important for sport psychology consultants to be more intentional

about educating athletes about the process and techniques used (Ferraro & Rush, 2000; Gardner, 2001; Zakrajsek & Zizzi, 2007) as well as highlight the benefits of sport psychology on athlete preparation and performance (Pain & Harwood, 2004; Zakrajsek & Zizzi, 2007). In doing so it may help to positively impact an athlete's engagement, acceptability, and attitude toward the services provided by sport psychology consultants.

Early studies examining the potential barriers that influence an athlete's attitude include as lack of respect and credibility toward sport psychology consultants (Ravizza, 1998). Other studies indicate that some athletes are reluctant to seek assistance from sport psychology consultants (Anderson, Hodge, Lavalley, & Martin, 2004; Ferraro & Rush, 2000; Gardner, 2001; Wrisberg et al., 2009; Zakrajsek et al., 2011; Zakrajsek & Zizzi, 2007; Zakrajsek & Zizzi, 2008), possess a fear of being stigmatized (Martin et al., 2004), or are unaware of the potential advantages and value of sport psychology consultants services (Leffingwell et al., 2001). A recent study of NCAA Division I athletes revealed that a lack of time prevented athletes from finding a consultant and engaging in the service they provide (López & Levy, 2013).

Research shows that an athlete's attitude toward working with sports psychology consultants is influenced by a range of personal (i.e., gender, cultural influences, previous experience) and sport related (i.e., sport type, level of competition) variables (Martin et al., 2012). Although this line of research is informative, insights are limited and thus there remains a need to continue examining other psychological factors that have the potential to influence an athlete's attitude toward sport psychology consultants and psychological skills training (Martin, 2004; Martin et al., 2012; Massey et al., 2015; Syed Mud & Hamish, 2013). Research of this nature is necessary to develop a complete understanding of why, despite the apparent benefits,



some athletes remain reluctant to utilize a sports psychology consultants for improved sports performance (Anderson, et al., 2004; Ferraro & Rush, 2000; Gardner, 2001; Maniar, et al., 2001)

Given the increased involvement and integration of sport psychology consultants within collegiate athletic programs (Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wilson et al., 2006), there is a growing need to examine other potential influential personal factors. Research of this nature helps to bridge the knowledge gap that exists and thus better inform sport psychology consultants about the factors that influence athlete's attitudes toward the services they provide. In this study; the specific personal factors examined for their influence on athletes' attitudes toward sports psychology consultants include gender, ethnicity, and year in school.

### **Mindset**

The nature versus nurture debate remains an ongoing discussion within the sport psychology literature and has brought the topic about the influence of mindset (i.e., implicit theories) to a point of focus across a number of fields including academics and athletics, in particular (Dweck, 2000; 2005; 2011). In the realm of sports, mindset refers to an athlete's belief about the nature and source of their ability (Dweck, 2009). Dweck (2005; 2006; 2009), proposes that individuals possess either a "fixed mindset" (entity theory) or "growth mindset" (incremental theory) and that mindset will significantly influence whether an individual believes their abilities can be developed or not (Dweck, 2011; Gucciardi, Jackson, Hodge, Anthony, & Brooke, 2014). In short, mindset matters.

Athletes who possess a fixed mindset believe their talent or abilities are fixed – that is, they possess a certain amount of talent - and the margin for further development is limited. Individuals who adopt a fixed mindset are less likely to engage in the development process because they believe their skill level will remain the same irrespective of how much effort and

practice they invest (Potgieter & Steyn, 2010). Conversely, athletes who exhibit a growth mindset believe their natural abilities and skills are malleable and can be developed through practice, effort, and perseverance (Dweck, 2006). Athletes with a growth mindset also perceive aspects of the development process (i.e., practice, feedback, and challenges) as positive opportunities from which to grow, develop and maximize their potential. The central tenet of the growth mindset theory is that any skill or ability can be developed through intentional practice and that mistakes as well as failure are part of the learning process.

A recent qualitative study, examining the mindset of elite British track athletes, revealed that athletes at this level universally adopted a growth mindset and thus believed that effort, feedback, and focusing on learning were as important as innate talent in the pursuit of success (Jowett & Spray, 2013). Similarly, an examination of athletes who compete at the national and international level also revealed that athletes with growth mindsets tend to respond more positively to success and failure than those with a fixed mindset (Potgieter & Steyn, 2010).

**Mindset and sport psychology consultants.** Taking the amount of research pertaining to mindset (and self-theories) into consideration (Dweck, 2000; 2005, 2008; 2009; Jowett & Spray, 2013; Potgieter & Steyn, 2010), and the impact it has across various domains, it is reasonable to argue that athletes who display a growth mindset will respond more positively to the opportunities to engage with consultants who have a desire to improve their psychological skills. Mindset is applicable to the work of sport psychology consultants as individual's belief directly impacts an athlete's fundamental view about whether they can further develop their physical and psychological abilities. It is logical to assume that athletes with a fixed mindset would be less likely to engage in with a sport psychology consultant because they believe their psychological skills are "fixed" and thus working with a sport psychology consultant has little purpose. In

contrast, it is reasonable to assume that athletes with a growth mindset would be more willing to engage in the consultation process because their fundamental belief is that their psychological skills can be developed. As a result, an athlete with a growth mindset may have a greater tendency to engage and embrace feedback from a sport psychology consultant as it will further develop their psychological abilities and thus performance. Working with a sport psychology consultant would simply be another opportunity to develop and achieve optimal performance.

Continued examination is required to develop a greater understanding of why athletes, especially those with no previous experience with sport psychology consultants, have a negative view toward sport psychology consultants and are not ready engage in psychological skills training programs (Massey et al., 2015). Moreover, while some studies report athletes possessing a positive attitude toward sport psychology services and believe them to be beneficial for performance (Anderson et al., 2004; Syed Mud & Hamish, 2013), other studies indicate that some athletes are sometimes not ready (Massey et al., 2015) or are hesitant, despite the benefits, to take advantage of the services provided by sport psychology consultants (Ferraro & Rush, 2000; Gardner, 2001; Maniar, Curry, Sommers-Flanagan, & Walsh, 2001; Martin, 1998; Massey, Meyer, & Hatch, 2011; Massey, Gnacinski, & Meyer, 2015; Ravizza, 1988; Wrisberg et al., 2009). Perhaps the positive impact a growth mindset has on an individual's academic and athletic performance, as a result of their willingness to engage in growth and development, may have a similar impact on athletes' attitude and willingness to engage with a sport psychology consultant. It is logical to assume that a growth orientated athlete will be more willing to engage in the consultation process and as a result be more accepting of the recommended interventions strategies - such as psychological skills training - presented by sport psychology consultants.

## Personality – Five Factor Model

Over the past two decades a considerable amount of effort has been dedicated to examining, conceptualizing, assessing, and measuring a variety of personality models such as the HEXACO model (Ashton & Lee, 2007; 2008; 2009), the Alternative Five Model Personality (Zuckerman et al., 1991), IPIP-International Personality Inventory (Goldberg, 1999). As is the case for all models, each of these personality measures has certain benefits and limitations in their utilization (Mohd Khir et al., 2016). However, research has shown the Five-Factor Model (i.e., Big Five personality framework) to be one of the most comprehensive, reliable, and valid measurement tools in a variety of domains and thus it is widely accepted as a framework to examine and measure the structure and nature of personality (Costa & McCrae, 1992; John, Naumann, Soto, 2008; Goldberg, 1990; Howard & Howard, 1995; McCrae & Costa, 2003; 2008; O'Connor, 2002).

It was deemed pertinent to include a personality component in the conceptual framework of this study and thus, the five-factor model (FFM) of personality (Costa & McCrae, 1992; McCrae & Costa, 2008) was chosen. The five-factor model is a commonly accepted instrument describing personality across five dimensions (Extroversion [E], Agreeableness [A], Conscientiousness [C], Neuroticism [N], and Openness [O]) “and is an explanatory account of the role of the Big Five factors of personality” (Ravi, 2016, p.37). In a variety of settings, the FFM has been utilized as a framework to describe the structure and nature of personality and has been shown to be a comprehensive, reliable and valid measurement tool (Costa & McCrae, 1992; Goldberg, 1999; Howard & Howard, 1995; O'Connor, 2002; McCrae & Costa, 2008; Ravi, 2016). Additionally, cross-cultural examination of the five-factor model has taken place in over

50 countries and the results confirm the universality of the five-factor model across a number of cultures and languages (McCrae, 2002; Schmitt, Realo, Voracek, Allik, 2008).

The five-factor model has been used to examine the relationship between personality and aspects of industrial-organizational psychology including job performance (Barrick & Mount, 1991), job satisfaction (Judge, Heller, & Mount, 2002) and performance motivation (Judge & Ilies, 2002). More recently there has been a growing interest in the role and influence of personality in physical activity (Allen & Laborde, 2014) and the domain of sport (Allen, Greenlees, and Jones, 2013; Hungenberg & Gould, 2015). The Big Five personality factor model lends itself to this study because of its reliability and validity when studying the effects of personality on different aspects of sport (Allen, Greenlees, & Jones, 2011; Egan & Stelmadt, 2003; Hughes, Case, Stuempfle, & Evans, 2003; Kajtna, Tusak, Baric, & Burnik, 2004; Mirzaei, Nikbakhsh, & Sharififar, 2013; Talyabee, Moghadam, & Salimi, 2013; Rhea & Martin, 2010; Sayfollahpour, Ganjooee, & Nikbakhsh, 2013; Sheard & Golby, 2011; Tran, 2012). As noted throughout the personality literature, athletes possess different personality types and their underlying personality traits, especially in a competitive setting, invariably contribute to their behavior, and thus, their performance (Allen, Greenless, & Jones, 2011). However, as noted by Allen et al., (2013), what remains unclear is the influence of personality on the sport psychology consultant and athlete consultation process.

### **Definitions of Key Terms and Acronyms**

**Division I:** Division I (D-I) is the highest level of intercollegiate athletics sanctioned by the National Collegiate Athletic Association (NCAA) in the United States.

**Five Factor Model:** The Five-Factor model, also referred to as the Big Five, is a commonly accepted construct describing personality across five dimensions (Extroversion [E],

Agreeableness [A], Conscientiousness [C], Neuroticism [N], and Openness [O]) “and is an explanatory account of the role of the Big Five factors of personality” (Ravi, 2016, p.37).

**Extroversion:** refers to the personality trait of an individual and their tendency toward being introverted or extroverted.

**Agreeableness:** refers to the personality trait such as altruism, trust, compliance and an individual’s tendency to adjust their behavior or response to suit others.

**Conscientiousness:** refers to the personality trait of being dependable, paying attention to detail, honest, and hardworking.

**Neuroticism:** refers to the personality trait as they relate to emotions and whether an individual is emotionally stable or has a tendency to experience and cope with negative emotions (i.e., fear, anxiety etc.).

**Openness:** refers to the personality trait of being curious, willing to seeking new experiences.

**Fixed Mindset:** refers to the belief that traits or abilities (e.g., since intelligence is not the only trait or ability) are characteristics that are static, finite, and unchangeable. As such, individuals who adopt a fixed mindset often avoid challenges, give up easily, see effort as fruitless, resist critical feedback, and feel threatened by mistakes and others’ success (Dweck, 2006).

**Growth Mindset:** refers to the belief that that traits or abilities can be developed. As such, individuals who adopt a growth mindset have a deeper desire to learn and as a result, embraces challenges, persist in the face of setbacks, see effort as the path to mastery, learn from critical feedback, and see inspiration in the success of others (Dweck, 2006).

**Mindset:** mindset refers to an individuals’ beliefs about themselves and their abilities (e.g., intelligence, academic ability, athletic abilities etc.) (Dweck, 2006).

**NCAA:** The National Collegiate Athletic Association (NCAA) is a non-profit association which regulates athletes of 1,281 institutions and their respective conferences, organizations, and individuals.

**Personality.** Personality refers to psychological qualities that contribute to an individual's enduring and distinctive patterns of feeling, thinking and behaving (Cervone & Pervin, 2010).

**Psychological Skills Training (PST):** refers to the systematic and consistent practice of mental or psychological skills for the purpose of enhancing the performance of athletes of all levels of ability (Weinberg & Gould, 2015).

**Sports Psychology Consultant (SPC):** refers to a certified consultant of the Association of Applied Sport Psychology (CC-AASP).

### Summary

Research shows that sport psychology consultants and the services they provide play a pivotal role in assisting athletes in developing strategies and skills that positively impact performance. The objective of this study was to examine the independent and interactive influence of mindset and personality on student-athletes' attitudes toward sport psychology consultants. This line of research has the potential to offer new insights and may have important implications for the sport psychology consultants and athlete consultation process.

The insights gained from this study have the potential to aid sports psychology consultants to be more impactful by developing a more comprehensive understanding of how mindset and personality influence an athlete's attitude toward the consultation process. It is hoped that this study will help clarify the independent and inter-connected nature of these psychological processes and as a result, expand the existing body of literature. Although previous research has identified some factors that influence athletes' attitudes toward sport

psychology consultants, a number of other potentially influential factors have yet to be examined.

This study sought to answer the call to expand on the existing, but limited (Massey et al., 2013; Massey et al., 2015), research examining psychological processes such as mindset (Dweck, 2006) and personality (Allen et al., 2013; Lavalley et al., 2005; Martin et al., 2004) independently and interactively. Considering the well-documented influence mindset (Dweck, 2006) and personality (Allen et al., 2011; Allen et al., 2013; Allen et al., 2014) have on performance in various domains, this study examined whether there is a similar impact on athletes' attitudes toward sport psychology consultants. To date, the relationship between these constructs (i.e., mindset and personality), has yet to be explored or empirically established and thus their influence remains unclear.

Chapter 2 provides an examination of pertinent literature and thus provides the background and foundation for this study. Chapter 3 focuses on the quantitative methodology used in this study. This chapter details the research design, research setting and questions, participant demographics, data collection, instrumentation, independent and dependent variables, as well as data analysis, and concluding with the limitations and delimitations of the study. Chapter 4 details the results from the statistical analysis conducted. Chapter 5 provides a detailed discussion on the results and proposed areas for future research.



## CHAPTER 2

### LITERATURE REVIEW

The origin of the scientific study of sports psychology can be traced back to the early 1890s. As a discipline sports psychology has progressed through a number of distinct eras and continues to evolve and “grow into a dynamic and continually advancing field” (Eklund & Tennebaum, 2014, p. 345). Prior to exploring a detailed review of contemporary literature it would be prudent to start by providing a brief historical overview as this will help to frame recent trends in sport psychology. Although there are a number of comprehensive accounts on the histories of sport psychology (Eklund & Tenenbaum, 2014; Gould & Voelker, 2014; Kornspan, 2009; Kornspan, 2012; Murphy, 2012; Schinke, McGannon, & Smith, 2016), the focus of this section is to provide a detailed, yet succinct, historical review of the various eras and events that have helped shape the field of sport psychology to date. Broadly, the history of sports psychology is categorized into six distinct eras that help to distinguish the various stages of the field’s development. According to Gould & Voelker (2014), these six distinct eras include:

- 1) Era 1: Antiquity to the early 1900s,
- 2) Era 2: 1920s-1930s - sports psychology developing as a specialty,
- 3) Era 3: 1940s-1960s - preparing sport psychology as a discipline,
- 4) Era 4: 1960s-1970s – development and establishment of sport psychology as an academic discipline.
- 5) Era 5: 1970s-1990s – the science and application of sports psychology,
- 6) Era 6: 1990s-today –increasing application of sport and performance psychology across various domains.

During the first era, interest in sports psychology can be linked back to when psychologists and physical educators such as William James and Luther Gulick started to collaborate in conducting psychological research in the context of sport (Kornspan, 2009). According to Gould and Voelker (2014), one of the most notable early research studies was conducted by Phillippe Tissie who examined psychological changes in endurance cyclists. At the same time, American psychologist E.W. Scripture sought to examine reaction times of runners and fencers which “reflected efforts to establish a *new psychology* that focused on data collection and experimentation versus subjective opinion as well as an emphasis on applying scientific findings to the real world (e.g., enhance athlete performance)” (Gould & Voelker, 2014, p. 346). Shortly after, Norman Triplett (1898) conducted one of the early experiments examining cycling performance and the psychological impact while riding alone or while competing with other cyclists (Kornspan, 2009). Though each of these individuals made important contributions, the scholar who helped shape the field throughout the next few decades was Pierre de Coubertin who pushed to incorporate an educational component which spurred the first Olympic educational congresses focused on psychology (Eklund & Tennebaum, 2014; Kornspan, 2007).

During the second era (1920s-1930s) the interest in sport psychology continued to grow through the study of notable sports performers and the development of sport psychology laboratories across various countries (Eklund & Tennebaum, 2014; Murphy, 2012; Schinke et al., 2016). The father of sports psychology, Coleman Griffith, is credited as the first person to systematically apply the strategies and principles of sport psychology to enhance performance (Cox, 2007). Much of the focus, during this time, focused on “how psychologists could aid the coach with the use of psychological testing of athletes...using intelligence tests and personality test in their consultation with athletes and coaches” (Kornspan, 2009, p. 8). At this point in

history, the majority of “the research related to sport psychology was conducted within a laboratory setting and was referred to as motor learning” (Cox, 2007, p. 6) and strongly focused on physical performance. The work of these scholars helped lay the foundation for the third era (1940s-1960s) in which sports psychologists would be viewed as an academic discipline and established the shift from testing to teaching athletes psychological skills (e.g., relaxation techniques), designed to enhance performance in various sports (Kornspan 2007, 2009; Kornspan & MacCracken, 2003). Some of the key aspects during this era included the work by Franklin Henry that focused on the psychology of physical activity and physical educators.

Other important contributions were made by David Tracy and Dorothy Yates, both of whom demonstrated the powerful influence of psychological skills training techniques and strategies in baseball and boxing performance (Kornspan & MacCracken, 2003; Murphy, 2012). It is during the fourth era (1960s-1970s) when further significant developments in the field of sports psychology took place. During this time, the First World Congress of Sports Psychology was established as well as other cornerstone entities such as the International Society of Sports Psychology (ISSP), the North American Society for the Psychology of Sport, the British Society of Sport Psychology, and the European Federation of Sport Psychology (FEPSAC) all of which play a key role in establishing SP as an academic discipline.

The fifth era (1970s-1990s) is when “sports psychology came of age as both a science and an area of professional practice” (Gould & Voelker, 2014, p. 348) and ultimately entered an ‘age of accountability’ (Anderson, Miles, Mahoney, & Robinson, 2002; Smith, 1989). During this time a number of institutions developed across various continents and scientists as well as practitioners committed to making the study of sports psychology their dedicated profession. The final era (2000-present) referred to as ‘*Contemporary Sport and Exercise Psychology*’ is the

timeframe when sports psychology received growing attention and began to be recognized as an established discipline (Weinberg & Gould, 2015; Kornspan, 2009). Consequently, this has resulted in considerable growth in specialized academic courses at the university level, an increase in the number of research studies examining exercise and sports psychology, and the number of collegiate and professional athletes working with sports psychology consultants to enhance their performance through psychological skills training. As a discipline sport psychology has progressed through a number of distinct eras, across various countries, and continues to evolve and develop on a variety of levels (Eklund & Tennebaum, 2014; Gould & Voelker, 2014; Schinke et al., 2016; Weinberg & Gould, 2015).

### **Contemporary Sport Psychology**

Over the last decade, the field of applied sport psychology has advanced rapidly, in the United State and across Europe, and has resulted in the establishment of a number of applied sport psychology programs at the collegiate, national, and international level of sport (Gee, 2010; Gould & Weinberg, 2015; Henriksen, Diment, & Hansen, 2012; Wylleman, Harwood, Elbe, & de Caluwé, 2009; Schinke, McGannon, & Smith, 2016; Winter & Collins, 2016). Sports psychology is an extensive domain that refers to a broad population base ranging from youth to adult and from those involved for participation purposes to those seeking to influence behavior and optimize performance (Gill & Williams, 2008; Gill, Williams, & Reifsteck, 2017). Moreover, sports psychology refers to the study of individual and team behaviors within the context of sport and seeks to develop a comprehensive understanding of how various psychological factors, positively or negatively, influence behavior and performance (Gill, Williams, & Reifsteck, 2017; Weinberg & Gould, 2015).

According to Portenga et al., (2011), “applied sport psychology is the study and application of psychological principles of human performance in helping athletes consistently perform in the upper range of their capabilities and more thoroughly enjoy the sport performance process” (p. 9). Other researchers refer to applied sports psychology as the scientific study of individuals and their behaviors in the realm of sport and exercise and how to effectively apply the knowledge acquired (Gill & Williams, 2008; Gould & Weinberg, 2015). In other words, sport psychology professionals, through research-based practices, seek to identify psychological principles and practices that can be utilized to facilitate participation, performance, and enjoyment in the context of sport and exercise activities (Winter & Collins, 2016).

While there are many facets to the field of sport psychology, professionals interested in the study of sport psychology often fall into two broad categories: (a) those who seek to understand the influence of psychological factors on sports performance with the goal of helping athletes achieve optimal performance or (b) those who seek to better understand how participants (ranging from children to adults of various physical and psychological capabilities, psychological development and well-being) are impacted by participation in physical exercise and activity (Weinberg & Gould, 2015). The context of this study aligns primarily with the former (i.e., performance athletes), who utilize sport psychology consultant services to develop psychological skills with the aim of achieving optimal performance (Beckmann & Ible, 2015; Donohue et al., 2004; Wrisberg et al., 2009), as opposed to participation athletes who may engage for health and well-being purposes.

### **Sport Psychology Subdomains**

While there are many facets to the sports psychology domain, professionals within the field of sports psychology often fall into one of three primary roles: researcher, teacher, and

consultant (Weinberg & Gould, 2015). The role of researchers is to conduct studies that develop a deeper understanding of the field and advance knowledge through research-based practices. The primary role of the teacher is to communicate and teach those interested in the field, which often takes place in the context of university courses. The third role is the sports psychology consultant, which refers to a sports psychology consultants' who partners with athletes to develop psychological skills and strategies that are designed to optimize performance (Weinberg & Gould, 2015). While all three play a critical role in the development of this field of study, the focus of this study centers on the role of the Sports Psychology Consultant (SPC) and specifically the factors that influence attitude toward consultants. According to Portenga et al., (2011) Sport psychology consultants are:

uniquely trained and specialized to engage in a broad range of activities including the identification, development, and execution of the mental and emotional knowledge, skills, and abilities required for excellence in athletic domains; the understanding, diagnosing, and preventing of the psychological, cognitive, emotional, behavioral, and psychophysiological inhibitors of consistent, excellent performance; and the improvement of athletic contexts to facilitate more efficient development, consistent execution, and positive experiences in athletes. p. 9

In other words, sport psychology consultants must possess myriad skills beyond that of the basic psychological skills and strategies they teach (Schinke & McGannon, 2015; Tod, 2017).

### **Characteristics Sport Psychology Consultant**

In an attempt to better understand the key qualities and characteristics of an effective sport psychology consultant, researchers have examined the perspective of coaches, athletes, athletic trainers and other medical staff (Anderson et al., 2004; Chandler, Eubank, Nesti, & Cable, 2014;

Chandler, Eubank, Nesti, Tod, & Cable, 2016; Cropley, Hanton, Miles, & Niven, Sharpe & Hodge, 2010; Fortin-Guichard, Boudreault, Gagnon, & Christiane Trottier, 2017; Lubker et al., 2008; Lubker et al, 2012; Orlick & Partington, 1987; Sharp & Hodge, 2011; 2013; 2014; Tod, 2017; Zakrajesk et al., 2015). Based on these insights, consultants must adapt to their setting and possess domain-specific and contextual knowledge (Sharpe & Hodge, 2011; Winter & Collins 2015) spanning a range of topics including communication (Anderson et al, 2004; Sharpe & Hodge, 2011; Tod & Lavellee, 2011) interpersonal skills (Sharpe & Hodge, 2011; Tod & Lavellee, 2011), observation and listening skills (Anderson, 2000; Anderson t al., 2004).

To be effective, consultants need to be able to accurately assess the needs of the athlete, ask meaningful questions, and possess a strong understanding of the various psychological properties of performance and their application within a specific sport context and culture (Poczwadowski & Sherman, 2011; Sharpe & Hodge, 2011). Additionally, consultants need to be positive, ethical, client-centered, respectful, honest, trustworthy, friendly, experienced, and possess the necessary counseling skills that positively impact the athletes' development (Anderson et al., 2004; Cropley et al., 2014; Sharpe, Hodge & Danish, 2015; Tod, 2017). The key is to building meaningful connections and professional relationships and engaging athletes in the development process while working to meet their needs (Sharpe & Hodge, 2011; Tod & Lavellee, 2011). If necessary, consultants must also be willing to remove themselves from the relationship if ethical or personal boundaries are crossed (Poczwadowski & Sherman, 2011). While the literature examining the effectiveness of sport psychology consultants is growing, further empirical evidence is necessary in order to advance the knowledge of perceptions and attitudes toward sport psychology consulting and the effectiveness of their service delivery (Fortin-Guichard et al., 2017).

## **Sports Psychology Consultants and Sports Performance**

Over the last few decades the influence of psychological variables on sports performance has been extensively examined (Eklund & Tenenbaum, 2014; Anderson, 2005; Weinberg & Gould 2015; Murphy, 2012). A review of the sport psychology literature reveals that a number of internal psychological variables such as confidence (Otten, 2009), readiness to change (Massey et al., 2013; Massey, Ginacinski & Meyer, 2015), anxiety (Morris & Kavassanu, 2009), and self-efficacy (Brown, Malouff, & Schutte, 2005), mental toughness and achievement motivation (Gucciardi, 2010) as well as external variables such as team cohesion (Rovio, Eskola, Kozub, Duda, & Lintunen, 2009) and coach-athlete relationships (Greenleaf, Gould, & Dieffenbach, 2001; Jowett, 2017) have been explored in an attempt to understand their influence on performance. The results from these studies and many others have subsequently led to the growing interest in, and involvement of, sport psychology consultants and the implementation of psychological skills training programs designed to enhance performance (Massey, Ginacinski & Meyer, 2015).

Sport psychology consultants and their services continue to be examined at a variety of levels ranging from the high school to the Olympic level athletes (Arnold & Sarkar, 2014; Barker & Winter, 2014; Birrer, Wetzel, Schmid, Morgan, 2012; Blakeslee & Goff, 2007; Camire & Trudel, 2014; Calmels, Berthoumieux, & D'Arripe, 2004; Freitas, Dias, & Fonseca, 2013; Frey, Laguna, Ravizza, 2003; Gould, Murphy, Tammen, & May, 1999; ; Gould & Maynard, 2009; Horn, et al., 2011; McCann, 2008; Martin, 2005b; Miçooğulları, 2016; Sharp et al., 2014; Sheard & Golby, 2006; Williams & Andersen, 2012; Wrisberg, Loberg, Simpson, Withycombe, & Reed, 2010; Wylleman & Johnson, 2012; Zakrajsek, Martin, & Zizzi, 2011; Zakrajsek, Steinfeldt, Bodey, Martin, & Zizzi, 2013). Recent studies indicate that coaches working with athletes at the



youth level (Barker & Winter, 2014; Thelwell et al., 2017, Zakrajsek, Martin, & Zizzi, 2011) and at the collegiate level (Wrisberg et al, 2010; Zakrajsek et al., 2013) show support for sport psychology consultants and the impact of the services they provide. Depending on the level, some coaches desire greater emphasis to be placed on performance related outcomes (Wrisberg et al., 2010) while others believe that a greater emphasis should be placed on personal development related outcomes (Barker & Winter, 2014).

At the collegiate level, sport psychology consultants are a relatively new addition to athletic departments (Bemiller et al., 2011) and interest in their services (e.g., psychological skills training) is growing. Contemporary literature indicates that between 20%-53% of NCAA athletic departments contract sports psychology consultants on a part-time or full-time basis (Hayden, Kornspan, Bruback, Parent, Rodgers, 2013, Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wrisberg et al., 2010; Wrisberg et al., 2009; Wrisberg et al., 2012; Wilson et al., 2009; Zakrajsek & Zizzi, 2007). While administrators recognize the benefits of sport psychology consultants and the services they provide, findings from several studies indicate that financial constraints as well as knowledge about the role of sport psychology consultants are the primary barriers limiting administrators from employing sport psychology consultants (Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wilson et al., 2009).

The role of a sport psychology consultants' is to equip athletes with the psychological skills and strategies to cope with the psychological demands of competition and assist athletes with performing optimally in non-optimal conditions (Blumenstein & Orbach, 2012; Freitas, Dias, & Fonseca, 2013; Hamberger & Iso-Ahola, 2006: Martin, Zakrajsek, & Wrisberg, 2012; Rothlin et al., 2016; Weinberg & Gould, 2015). The consensus within contemporary literature is that sport psychology consultants and psychological skills training they provide play an

important role in developing, maintaining, and enhancing performance related psychological variables (i.e., self-confidence, coping skills, goal setting, self-talk, imagery; mental toughness) (Birrer & Morgan, 2010; Dehghani & Ebrahimi, 2017; Hardy, 2006; Gould, Voelker, Damarjian, & Greenleaf, 2014; Kuan & Kueh, 2015; Tod, Hardy, & Oliver, 2011; Van Raalte, Vincent, & Brewer, 2016; Von Guenther et al., 2010) as well as performance across various sports (Blackeslee & Golf, 2007; Blumenstein & Orbach, 2012; Chang, Ho, Lu, Ou, Song, & Gill, 2014; Gharayaghzandi, Dhghani, & Masoumi, 2014; Hatzigeorgiadis, Theodorakis, & Zourbanos, 2004; Johnson et al., 2004; Mellalieu, Hanton, O'Brien, 2006; Sheard & Golby, 2006; Thelwell, Greenless, & Weston, 2006; Thelwell & Maynard, 2003; Ward & Carnes, 2002). These findings are supported by coaches and administrators, especially at higher competition levels, who also recognize sports psychology consultants and psychological skills training as an important component in the preparation and development of athlete performance (Freitas, Dias, Fonseca, 2013; Gould, Medbery, Damarjian, & Lauer, 1999; Gould, Murphy, Tammen, & May, 1999; Grobbelaar, 2007; Kornspan & Duve, 2006; Lim & O'Sullivan, 2016; Miccogullari, 2016; Sullivan & Hodge, 1991; Vealey, 2007; Voight & Callaghan, 2001; Wrisberg et al., 2010; Zakrajsek & Zizzi, 2007; Zakrajsek et al., 2013).

Studies show that a significant number of coaches view psychological skills training as a crucial, and necessary, aspect of athlete preparation for competition (Fifer et al., 2008; Figone, 1999; Freitas et al., 2013; Grobbelaar, 2007; Wrisberg et al., 2010). However, few coaches incorporate psychological skills training programs (Grobbelaar, 2007) which can often be the result of not having enough time, understanding, or knowledge of how to implement psychological skills and strategies effectively (Figone, 1999; Freitas et al., 2013; Gould, Medbery, Damarjian, & Lauer, 1999). It is for this reason that various researchers suggest that it

is more effective to have a certified sport psychology consultant deliver psychological skills training programs because the coach's time is limited and also the coaches' attitudes toward sport psychologists can interfere with the athlete's level of adherence to the program (Figone, 1999; Hanrahan, Grove, & Lockwood, 1990).

### **Psychological Skills Training**

The consensus within the scientific literature is that most sport psychology consultant adopt and implement psychological skills programs (Beckmann & Ible, 2015; Fortin-Guichard et al., 2017) to enhance an athlete's cognitive process which in turn increase the likelihood of maximizing development and achieving optimal performance (Blakeslee & Goff, 2007; Figone, 1999; Frey et al., 2003; Thellwell, Greenlees, & Weston, 2006; Vealey, 2007; Weingberg & Gould 2015). The study of psychological skills training offered by consultants continues to be a point of focus for researchers across sports at various levels (Camire & Trudel, 2014; Dehghani & Ebrahimi, 2017; Freitas et al., 2013; Gucciardi, Gordon, & Dimmock, 2009a; 2009b; Lim & Osullivan, 2016; Micoogullari, 2016; Ong & Griva, 2014; Sheard & Goby, 2006; Vealey, 2007) and the critical role of psychological skills training in facilitating athlete performance is widely accepted (Birrer & Morgan, 2010; Fortin-Guichard et al., 2017). The objective of psychological skills training is to systematically develop techniques and strategies that assist athletes in achieving optimal performance and personal well-being (Birrer & Morgan, 2010; Vealey, 2007; Weingberg & Gould 2015). The implementation of a psychological skills training program involves three specific phases (Weinberg & Williams, 2010) and some suggest it should be periodized over time using a season long comprehensive training plan (Lidor et al., 2007; Von Guenther, Hammermeister, Burton, & Keller, 2010).

The first phase is referred to as the education phase which when the sport psychology consultant explains the importance of the strategies to the athlete and illustrates that the strategies are evidence-based (Winter & Collins, 2015) and have been shown to be effective (Weinberg & Williams, 2010). The second phase refers to the acquisition phase which involves teaching the athlete the various strategies and showing them how to incorporate them into a practice and performance routines. Recent studies point to the importance of developing sport-specific psychological skills, tailored to the individual needs of the athlete, to enhance or maintain performance (Hayslip & Petrie, 2014). The third, and final, phase is the practice phase which is when the athlete is provided with the opportunity to practice and refine the new strategies in their practice and competition environment (Weinberg & Williams, 2010). Research focused on assisting coaches with integrating psychological skills and strategies into youth soccer practices revealed that short-term educational workshops increased coach's knowledge of psychological skills training and thus increase their confidence to when implementing strategies into their practice (Camire & Trudel, 2014; Hardwood, 2008). Learning to effectively use psychological skills is no different to learning to effectively use a physical or technical skills, they all require intentional and regular practice as well as patience and perseverance in the process (Frey et al., 2003; Weinberg & Gould, 2010). In order to improve their mental preparation, athlete, and coaches, must be committed to the process of intentional practice over time in order to experience the benefits of psychological skills training programs.

A number of studies indicate that incorporating psychological skills is an important aspect of the training and preparation of athletes (Freitas et al., 2013; Gharayaghzandi, Dhghani, & Masoumi, 2014; Lim & Osullivan, 2016; Micoogullari, 2016; Ong & Griva, 2014; Sheard & Goby, 2006; Murphy, 2005; Orlick, 2008; Von Guenther et al., 2010). The contemporary

literature suggests that psychological skills training plays an important role in developing and enhancing performance-related psychological variables (i.e., self-confidence, coping skills, goal setting, self-talk, imagery, arousal regulation, mental toughness) (Birrer & Morgan, 2010; Dehghani & Ebrahimi, 2014; Gould et al., 2014; Gucciardi, Gordon, & Dimmock, 2009a; 2009b; Malouff et al., 2008; Micoogullari, 2016; Tod, Hardy, & Oliver, 2011; Von Guenther et al., 2010) as well as performance across various sports (Blakeslee & Goff, 2007; Chang, Ho, Lu, Ou, Song, & Gill, 2014; Edwards & Steyn, 2008; Gharayaghzandi, Dhghani, & Masoumi, 2014; Hatzigeorgiadis, Theodorakis, & Zourbanos, 2004; Johnson et al., 2004; Kim, 2003; Lim & O'Sullivan, 2016; Malouff et al., 2008; Mellalieu, Hanton, O'Brien, 2006; Micoogullari, 2016; Ong & Griva, 2014; Sheard & Golby, 2006; Thelwell & Maynard, 2003; Thelwell, Greenless, & Weston, 2006; Ward & Carnes, 2002). Many of the initial psychological skills training programs focused on developing individual skills (i.e., self-talk, self-confidence, or goal setting) in isolation (Theodorakis, Weinberg, Natsis, Douma, & Kazakas, 2000). However, the effectiveness of this one-dimensional approach has been questioned as being limited in nature (Tenenbaum & Eklund, 2007). In response, other researchers have explored a multi-dimensional approach (i.e., goal setting, self-talk, imagery, etc.) that promotes the development of a variety of psychological skills, concomitantly. Studies have found this packaging approach for intervention to be effective for attaining performance consistency and actual performance (Thelwell & Maynard, 2003) as well as various other aspects such as psychological wellbeing (Edwards & Steyn, 2008; Micoogullari, 2016).

The purported benefits of psychological skills training strategies include improved concentration and performance outcomes (Orlick & Partington, 1988), enhanced perceptions of success in practice and competition (Frey, Laguna, & Ravizza, 2003), team cohesion

(Micoogullari, 2016), anxiety management (Mamassis & Doganis, 2004; Micoogullari, 2016; Von Guenther et al., 2010), mental toughness (Dehghani & Ebrahimi, 2017; Gucciardi, Gordon, & Dimmock, 2009a; 2009b), greater emotional control (Lazarus, 2000), ability to deal with pressure (Beilock & Carr, 2001), and increases in athlete confidence (Mamassis & Doganis, 2004; Micoogullari, 2016). Moreover, psychological skills training has been shown to facilitate injury rehabilitation (Arvinen-Barrow, Clement, Hamson-Utley, et al., 2015; Driediger, Hall, Callow, 2006; Hare, Evans, Callow, 2008; Naylor, 2009), life skills (Papacharisis, Goudas, Danish, & Theodorakis, 2005), stress management skills (Zinsser, Bunker, & Williams, 2006), reduce elements of burnout (Gould, Tuffey, Udry, & Loehr, 1996a; 1996b; 1997), as well as enhance psychological well-being (PWB) (Edwards & Steyn, 2008; Micoogullari, 2016).

For example, a recent study by Micoogullari (2016) investigated the influence of a 12 week psychological skills training program on performance related psychological skills of professional soccer players with no previous experience working with a sport psychology consultant. Result showed that psychological skills training positively impacted team cohesion, anxiety, confidence, and PWB of professional athletes. Additionally, follow up assessments showed that improvements in psychological skills were retained by participants six month after the psychological skills training. From a youth athlete perspective, other researchers have conducted qualitative and quantitative research to examine the impact of psychological skills training programs on youth Australia football players. Quantitative results revealed that participation in a structured psychological skill straining program results in positive improvements in mental toughness, flow state, and resilience. Furthermore, qualitative reports revealed that participants enjoyed the psychological skills training program because it enhanced their work ethic, preparation for practice as well as their overall mental toughness (Gucciardi et

al., 2009a; 2009b). Another recent line of research is the role of psychological skills training on specific skills such as Functional Athletic Behavior (FAB), which refers to an athlete's ability to execute high quality movements and their attentional focus on relevant performance cues that are considered necessary for optimal performance (Rothlin et al., 2016).

Collectively, the results from the aforementioned studies demonstrate the benefits and effectiveness of sports psychology consultants and psychological skills training on both internal and external factors that facilitate sports performance across various settings. In other words, the consensus within the sports psychology literature is that psychological skills training, when delivered effectively by a professional sports psychology consultant, is an effective strategy for assisting, maintaining and enhancing performance (Anderson, 2005; Blakeslee & Goff, 2007; Chang, Ho, Lu, Ou, Song, & Gill, 2014; Edwards & Steyn, 2008; Gharayaghzandi, Dhghani, & Masoumi, 2014; Hatzigeorgiadis, Theodorakis, & Zourbanos, 2004; Hatzigeorgiadis et al., 2011; Johnson et al., 2004; Kim, 2003; Lim & O'Sullivan, 2016; Mellalieu, Hanton, O'Brien, 2006; Micoogullari, 2016; Ong & Griva, 2014; Sheard & Golby, 2006; Thelwell & Maynard, 2003; Thelwell, Greenless, & Weston, 2006; Ward & Carnes, 2002). While the results from these studies are informative and provide important insights regarding the impact of sport psychology consultants and their services, ongoing examining of athlete's attitudes, beliefs, and perceived barriers toward sport psychology consultants and their services is warranted in order to develop a comprehensive research base (Martin et al., 2012).

Despite empirical and undisputable data supporting the benefits of using psychological skills training program for sports performance and recovery (Greenleaf, Gould, & Dieffenbach, 2001; Hatzigeorgiadis, Zourbanos, Galanis, & Theodorakis, 2011; Kuan & Kueh, 2015; Meyers, Whelan, & Murphy, 1996; Thelwell & Maynard, 2003; Thelwell, Greenless, & Weston, 2006),

results from other studies indicate that coaches and athletes remain reluctant to seek assistance from sports psychology professionals (Massey, Meyer, & Hatch, 2011; Martin, 2005; Martin, Kellman, Lavallee, & Page, 2002; Martin, Lavallee, Kellman, & Page, 2004; Martin, Wrisberg, Beitel, & Lounsbury, 1997; Masia et al., 2008; Wrisberg et al., 2009; Zakrajsek et al., 2001; Zakrajsek & Zizzi, 2007; Zakrajsek & Zizzi, 2008). The call for continued research centers on the need to address unanswered questions pertaining to why athletes, who acknowledge the benefits from the support provided by sport psychology consultants, don't seek this support more often (Ferraro & Rush, 2000), are often "not ready to actively engage in psychological skills training programs" (Massey et al., 2015, p. 329) and are hesitant to take advantage of the services provided by sport psychology consultant (Anderson, Hodge, Lavalle, & Martin, 2004; Ferraro & Rush, 2000; Martin, 2005; Martin, Kellmann, Levalle, & Page, 2002; Martin et al., 2004; Massey, Myer, & Hatch, 2011; Wrisberg et al., 2009).

In light of the substantial evidence in support of sport psychology consultants and psychological skills training in facilitating, maintaining, and enhancing performance, it is important for coaches and consultant to be aware of the factors that positively, or negatively, impact an athlete's attitude toward sports psychology consultation (Martin et al., 2012). Further investigation is required to develop a greater understanding of why athletes, in spite of the well-documented benefits to performance, remain hesitant to engage in psychological skills training offered by sport psychology consultants (Ferraro & Rush, 2000; Lavallee et al., 2005). Research of this nature is critical to the growth and development of applied sport psychology as a profession and will help consultants "resolve the question of why athletes are so reluctant to use their services" (Ferraro & Rush, 2000, p. 2). Continued research is essential for consultants so they can improve the design and delivery of their services to meet the needs of their athletes



(Massey et al., 2015; Syed Mud & Hamish, 2013) and identify the best strategies to establish an engaging rapport with athletes, “which in turn impacts their intentions to use the sport psychology services, engage in productive skill development behaviors, and experience satisfaction” (Martin et al., 2012, p. 18). In other words, in addition to personality and situational factors, an athlete’s attitude toward their consultant is a critical component to the consultation process and the effective functioning of the relationship (Hays, 2012; Martin et al., 2012; Murphy, 2012).

### **Attitudes toward Sports Psychology Consultants**

While the studies above are informative, affirm the role of sport psychology consultants, and highlight the effectiveness of psychological skills training, there remains a need to amass a stronger research base that addresses existing gaps in the literature (Lavalle et al., 2005). An examination of the contemporary literature reveals that most of the aforementioned studies focus on the outcome services (i.e., impact and effectiveness of psychological skills training programs) and give little consideration to underlying psychological factors that influence an athlete’s attitude toward working with sport psychology consultants and the psychological skills training they provide. Attitudes are learned behavior that are malleable and refer to an individual mental state and are thought to significantly influence how individuals respond to their environment and to other people (Pearson School, 2008). For example, if an athlete possesses a negative attitude toward sport psychology consultants it will adversely impact the athlete’s receptiveness to the consultant’s feedback and result in the athlete missing critical information designed to facilitate his or her development. Conversely, a positive attitude toward sport psychology consultants would increase the athlete’s receptiveness to the consultant’s feedback and thus enhance his or her ability to develop the psychological skills necessary to improve performance. The

importance of understanding attitude is reiterated by Lavallee et al., (2005) who states that “as the provision of sport psychology increases, practitioners need a greater understanding of athletes’ attitudes toward sport psychology so they can tailor their services to best meet the needs of athletes” (p. 115).

In order to enhance sport psychology practice, further research examining the factors that influence an athlete’s attitude and receptiveness to engage with sport psychology consultants and their services (i.e., psychological skills training) is required. The need for continued examination is reiterated by Wrisberg et al., (2010) who states that “relatively little is known about the receptivity of student-athletes and coaches to a role for a sports psychology consultants...and their willingness to use mental [psychological] training services” (p. 490). Given the well-documented benefits of sport psychology consultants, continued examination is required in order to understand why “a large portion of athletes may not be ready to actively engage in psychological skills training programs” (Massey et al., 2015, p. 329) and the individual differences in people’s attitudes toward the services provided by sport psychology consultant based on a variety of factors (Anderson, 2005; Anderson, Hodge, Lavallee, & Martin, 2004; Martin, 2005; Martin, Kellmann, Levalle, & Page, 2002; Martin et al., 2004; Massey, Myer, & Hatch, 2011; Wrisberg et al., 2009).

In an attempt to address this gap in the literature, a more recent line of research, within the field of sports psychology, has centered on examining factors that influence athletes’ attitudes (Anderson, Hodge, Lavallee, & Martin., 2004; Coward, Howart, & Marshall, 2015; Donohue et al., 2004; Dunn & Holt, 2003; Green, Morgan, & Manley, 2012; Johnson, Andersson, & Fallby 2011; Lavelle, Jennings, Anderson, & Martin, 2005; Lubker, Visek, Watson, & Singpurwalla, 2012; Syed Mud et al., 2013; Martin et al.,2001; Martin et al., 2004;

Martin, Vause, & Schwartzman, 2005; & Harwood, 2004; Wrisberg, Simpson, Loberg, Withycombe, & Reed, 2009), coaches' attitudes (Kasiulis & Garbaliuskas, 2010; Wrisberg et al., 2010; Zakrajsek et al., 2007), athletic trainers attitudes (Zakrajsek et al., 2015), as well as administrators' attitudes (Wilson et al., 2009; Wrisberg, et al., 2012) toward sports psychology consultants.

Although progress is being made in this area of study, continued research is required in order to develop a comprehensive understanding of the factors that influence an athlete's attitude toward sport psychology consultants (Fortin-Guichard et al., 2017). Developing a more robust understanding of the factors that influence an athlete's attitude toward sports psychology consultants is of critical importance to applied sport psychology researchers (Martin et al., 2012; Lubker, Visek, Watson, & Singpurwalla, 2012) as it allows for consultants to "determine which strategies and mental skills might be attractive to various groups and identify some ways of establishing a rapport" (Martin et al., 2012, p. 3). Establishing a good rapport is important because it influences the athlete intention to use sport psychology consultants and increases engagement in skill development and enhances satisfaction (Martin et al., 2012). In order to educate an athlete, one must first engage him or her. Moreover, as noted by several studies, research of this nature will allow consultants to specifically tailor their psychological skills training programs to meet the needs of each individual athlete and engage in a way that helps to optimize intervention effectiveness (Collins et al., 2013; Lavalelle et al., 2005; Sharp & Hodge, 2011; Van Raalte, 2003; Winter & Collins, 2015).

Enhancing the consultation process can only help improve overall effectiveness as well as athletes receptiveness to services provided by sport psychology consultants (Martin et al., 2012; Martin et al., 2002; Martin et al., 1997). This line of research is necessary because, in spite of the

well-documented benefits of utilizing a sports psychology consultant to enhance performance, researchers continue to highlight that some athletes and coaches demonstrate individual differences in their attitude toward sport psychology consultants and may be hesitant to take advantage of their services (Anderson, 2005; Anderson, Hodge, Lavalley, & Martin, 2004; Martin, 2005; Martin, Kellmann, Levalley, & Page, 2002; Martin et al., 2004; Massey, Myer, & Hatch, 2011; Wrisberg et al., 2009; Zakrajsek et al., 2011; Zakrajsek & Zizzi, 2007; Zakrajsek & Zizzi 2008). Previous studies have focused on examining the potential barriers that impact a student athlete's attitude toward a sport psychology consultant (Kasiulis & Garbaliuskas, 2010; Maniar et al., 2001; Martin, 2005; Martin et al., 2002; Martin et al., 1997; Wrisberg et al., 2009). This has resulted in researchers uncovering a number of reasons why athletes do not take advantage of the services provided by sport psychology consultants.

### **Factors Influencing Athletes Attitudes toward SPC**

An athlete's attitude, or willingness, toward seeking support from a sport psychology consultant may be influenced by a number of variables (Martin et al., 2012). Researchers have identified a number of factors that influence why athletes are reluctant to take advantage of the psychological skills training offered by sport psychology consultants. Early studies highlighted barriers such as lack of respect and credibility toward sport psychology consultants (Ravizza, 1998; Harmison, 2000). Other researchers suggest that some athletes are skeptical, have a false perception, possess a fear of being stigmatized (Harmison, 2000; Leffingwell et al., 2001; Martin, 2005) or are simply unaware of the potential advantages and value of sport psychologists (Leffingwell et al., 2001). Other studies indicate that athletes from certain cultures more open attitudes toward working with a sport psychology consultant (Lavalley et al., 2005). Research shows that an athlete's attitude toward working with sports psychology

consultants is influenced by a range of personal characteristics (i.e., gender, athlete maturity, ethnicity, cultural influences, previous sports psychology consultants experience) and sport related variables (i.e., sport type, level of competition) (Martin et al., 2012). Research indicates there are four main barriers that influence a student-athletes' attitude toward sport psychology consultants. These barriers include: 1. Athletes "Confidence in sport psychology consultants" (i.e., beliefs about the usefulness of mental training); 2. "Lack of Openness" (i.e., the willingness and ability of an athlete to discuss problems or concerns with a consultant), 3. "Stigma toward" toward consultants" (i.e., belief that others label athletes who work with a consultant as having psychological problems), and 4. "Cultural preferences" (i.e., the degree to which athletes prefer to work with a consultant with a similar background). Researchers have examined a variety of factors that potentially influence each of these areas and have encountered varying results (Martin et al., 2002; Martin et al., 2012).

### **Athletic Maturity and Ethnicity**

Regarding athletic maturity, research indicates younger athletes (i.e., high school) are more likely to possess a stigma toward sport psychology consultants than older athletes (i.e., collegiate level) (Martin, 2005), but this is an area that requires further examination (Lavallee et al., 2005). As for the influence of ethnicity, the results are mixed. Some studies indicate that athletes from certain minority groups (e.g., African American) are less likely to engage in the sport psychology consultation and stigmatize more (Martin et al., 1997; Wrisberg & Martin, 1994) than white athletes. However, these results are not consistent with more recent investigations which indicate no difference in receptiveness to consultation between white and minority groups (Hamburger et al., 2006; Wrisberg et al., 2009). Regardless of the inconsistencies, the results highlight the need for sport psychology consultants to be sensitive to

these personal characteristics and how they potentially influence athletes' attitudes toward seeking assistance from sport psychology consultants (Martin et al., 2004).

### **Gender and Experience**

Researchers have uncovered other personal factors thought to influence athletes' attitudes toward sport psychology consultants' services. Regarding gender and prior experience, researchers have uncovered some common trends. Research indicate that female athletes, compared to male athletes, are more receptive to working with sport psychology consultants (Hamberger & Iso-Ahola, 2006; Maniar et al., 2001, Martin, 2005; Martin et al., 2002; 1997; Wrisberg & Martin, 2994; Wrisberg et al., 2009), stigmatize sport psychology consultants less, and have greater levels of confidence in the benefits of consultation services (Anderson et al., 2004; Hamberger & Iso-Ahola, 2006; Maniar et al., 2001; Martin, 2005; Martin e al., 2004; Martin et al., 2002; 2005; Wrisberg et al., 2009). Moreover, female athletes appear to demonstrate higher levels of commitment (i.e., self-responsibility and motivation) to the consultation process (Martin et al., 2001) than their male counterparts. However, results are not all consistent, as other studies have shown no gender differences when it comes to attitudes toward sport psychology consultants (Syed Mud & Hamish, 2013). Similarly, from a coaching perspective, studies show that female coaches demonstrate more receptive attitudes and stigmatize less toward the services provided by sport psychology consultants than male coaches (Wrisberg et al., 2010; Zakrajsek & Zizz, 2007).

Research also indicates that athletes with prior experience with sport psychology consultants, especially positive interactions, are more receptive to sport psychology services than athletes with no, or negative, previous experience (Anderson et al., 2004; Hamberger & Iso-Ahola, 2006; Maniar et al., 2001; Lubker et al., 2008; Martin, 2005; Wrisberg et al., 2009). In

other words, athletes, females in particular, with previous positive experiences are more receptive to utilizing the services of sport psychology consultants than male athletes and those with no prior experience.

### **Cultural Influence**

The athlete population, at all levels, is increasingly diverse and depending on the sport, there can often be a certain number of minority groups represented in significantly higher numbers. As such, sport psychologists consult with athletes from a range of cultural backgrounds (Tenenbaum & Eklund, 2007). As noted by Schinke and Morore (2011), a number of “factors comprise the cultural composition of both the client and practitioner, including, though not necessarily limited to ethnicity, socioeconomic background and status, race...and can certainly impact the nature of the therapeutic relationship, intervention strategies, and intervention outcomes” (p. 283). Therefore, it is crucial for sport psychologists to ‘develop a multicultural competency’ and become aware of the cultural context, beliefs and variations within each minority groups (Kontos, 2009; Tenendaum & Eklund, 2007). In recognizing this, some researchers have explored the influence of nationality and culture on athletes’ attitudes toward sport psychology consultants’ services (Schinke & Moore, 2011; Schinke & McGannon, 2015).

For example, in relation to nationality, responses to the Sports Psychology Attitudes-Revised questionnaire (Martin et al., 2002) showed that athletes from Britain, America, and Germany displayed similar positive attitudes toward sport psychology consultants. Follow up studies, examining the influence of culture, revealed that athletes from the United States appear to possess a greater stigma toward sport psychology consultants than athletes from European countries such as Germany and the United Kingdom. Moreover, athletes from the United Kingdom had higher levels of confidence in the usefulness of sport psychology consultants than

athletes from Germany and the United States (Martin et al., 2004). Other studies revealed that athletes from New Zealand had a positive and receptive attitude toward sport psychology consultants, especially toward consultants with similar cultural backgrounds, more so than those athletes from the United Kingdom, Germany, and the United States (Anderson et al., 2004). More recent investigations into the influence of nationality revealed that athletes from Malaysia and Ireland reported a positive attitude toward sport psychology consultants, are open to assistance from a sport psychology consultant, and have a moderately high level of confidence in the benefits of consulting services (Lavalley et al., 2005; Syed Mud & Hamish, 2013). Interestingly, compared to other countries, athletes from the United States appear to stigmatize psychologists, are some of the least confident in consulting, and are one of the most reluctant to use sport psychology consultation (Martin et al., 2004).

The results from the above studies highlight that an athlete's attitudes toward sport psychology consultants is, in part, influenced by their cultural and societal belief structure and that further cross-cultural investigation of athletes is needed (Schinke & Moore, 2011; Schinke & McGannon, 2015). Research of this nature, coupled with multicultural training, will help sport psychology consultants "develop the necessary multicultural skills for effective sport psychology interventions with athletes from different cultures" (Kontos, 2009, p. 116) which will improve athlete's attitudes and receptiveness toward consulting (Butryn, 2002; Martens Mobley, & Zi, 2000) and as a result benefit from their services.

### **Type of Sport**

As for sports related factors (i.e., sports type and competition level), Hamberger and Iso-Ahola (2006) found that individual-sport athletes demonstrated more positive attitude toward sport psychology consultants than team sports. This may be related to previous findings that



suggest athletes competing in individual sports (i.e., tennis, golf, and track and field) experience higher levels of competitive anxiety (Simon & Martens, 1979) and perceived failure (Iso-Ahola & Hatfield, 1986) more so than athletes participating in team sports because individual sport athletes have to often accept full responsibility for their performance. The increased psychological stress experienced by individual-sport athletes may make them more receptive to the support services offered by sport psychology consultants (Hamberger & Iso-Ahola, 2006). 2006). While results from more recent studies do not support the notion that competitive anxiety and perceived failure do not independently contribute to an athlete's receptiveness to the services provides by sport psychology consultants it should not discount the potential indirect influence these have in specific groups of athletes (i.e., individual sport and females) (Hamberger & Iso-Ahola, 2006).

Additionally, Martin (2005) indicated that athletes involved in contact sports such as American football, show a greater tendency to stigmatize sport psychology consultants than athletes participating in non-contact sports such as golf. One possible explanation for this difference pertains to the varying levels of masculinity socialization (i.e., 'machoism') between contact and non-contact sports. Some researchers suggest that in contact sports such as American football there is a high value placed on aggressive behavior and pain tolerance and that this mindset may discourage athletes from seeking assistance from support staff (e.g., psychology consultants) because of the stigma that it could be perceived as a sign of mental weakness by their peers or their coaches (Good & Wood, 1995; Green et al., 2012; Lopez & levy, 2013; Martin 2005; Martin et al., 1997; Page, Martin, & Wayda, 2001; Wrsiberg et al., 2009; Steinfeldt, Steinfeldt, England, & Speight, 2009).

This stigma toward sport psychology consultants is supported by earlier studies which show that when confronted with sports performance problems, some athletes preferred to seek assistance from their coach instead of a qualified sport psychology consultant and that sport titles psychology consultants were preferred over counselors or clinical psychologists (Maniar et al., 2001). Some researchers indicate this is due to the stigma of sport psychologists being perceived by athletes as a mental health professional (i.e., psychiatrists or “shrinks”) and are primarily for athletes with psychological problems (Linder, Brewer, Van Raalte, & DeLange, 1991; Ravizza, 1998; Van Raalte, Brewer, Brewer, & Linder, 1992). Others appear skeptical because they have a false perception or possess a fear of being stigmatized (Harmison, 2000) or simply fail to recognize the potential advantages of sport psychology services (Leffingwell et al., 2001).

### **Summary of Attitudes toward Sport Psychology Consultants**

A critical review of the literature pertaining to the attitudes toward sport psychology consultants reveals a variety of viewpoints regarding the various stakeholders (i.e., athletes, coaches, administrators and support staff) involved in sport. While there are some differences, for the most part stakeholders generally report a positive attitude toward sport psychology consultants and recognize the potential impact their services have on enhancing performance (Fortin-Guichard et al., 2017). Taken together, the results from the studies above highlight the point noted by Martin et al. (2004; 2012) that sport psychology consultants must be sensitive to how various personal characteristics and sports related variables influence attitudes toward sport psychology consultants. In addition to continuing to examining athletic maturity, ethnicity, gender, culture, type of sport there is a need for further investigation, by researchers and practitioners, in order to develop a greater understanding of other factors that influence athlete’s

attitudes toward sport psychology consultation (Anderson, Miles, Mahoney, Robinson, 2002; Fortin-Guichard et al., 2017; Lavalley et al., 2005; Martin et al., 2012; Wrisberg et al., 2009).

Research of this nature will help make consultants more effective by helping improve their ability to build a rapport with their athletes, deliver services that meet the individual needs of the athlete during the consultation process (Lavalley et al., 2005; Syed Mud & Hamish, 2013) and in turn positively influence the athletes intentions to use the sport psychology services (Martin et al., 2012). Additionally, continued research will help sport psychology consultants in their ability to educate and enhance the knowledge base of the key individuals (i.e., athletes, athletic administrators, coaches, and parents) about the benefits of the consultation process. Developing a greater knowledge base about the services provided by sport psychology consultants is important because past research indicates that knowledge is a strong predictor of intentions to engage (Higgins & Connor, 2003; Rhodes & Courneya, 2003). In other words, the knowledge a coach or athlete possesses about sport psychology is strong predictor of receptiveness to sport psychology services (Hamberger & Iso-ahola, 2006). Therefore, continued research that enhances knowledge and better informs athletes and coaches of the benefits of psychological skills is necessary because it increases the likelihood of engaging with a sport psychology consultant.

### **Personality and Mindset**

While research to date has clearly demonstrated that various personal characteristics (i.e., gender, ethnicity etc.), situational characteristics (e.g., type of sport, competition level, culture) and psychological variables (i.e., motivation, concentration) influence an athlete's attitudes toward sports psychology consultants, a number of other potential factors require further investigation (Martin et al., 2004; Martin et al., 2012; Massey et al., 2015). In an attempt to close

this gap in the sports psychology literature, Massey et al., (2015) recently explored the role of psychological processes (i.e., ‘readiness to change’) and the influence it has on athlete’s receptiveness to psychological skills training. Results revealed “a large portion of athletes may not be ready to actively engage in psychological skills training programs” offered by sport psychology consultants and that there is a growing need to examine other psychological processes when attempting to design and deliver psychological skills training programs (Massey et al., 2015, p. 329). This study, as well as earlier studies (Martin, 2004; Martin et al., 2012; Wrisberg et al., 2009), reiterate the need for continued examination of psychological factors that influence an athlete’s attitudes toward sport psychology consultants. Research of this nature would not only enrich the understanding of sport psychology consultants but may also enhance delivery of services.

Two gaps identified within the literature that require further investigation are mindset (Dweck, 2006) and personality (Allen et al., 2013; Martin et al., 2004; Murphy, 2012; Lavalley et al., 2005). This line of research has the potential to offer new insights and may have important implications for the field of sport psychology and the sport psychology consultants and athlete consultation process (Allen et al., 2013). The purpose of this study is to build on the existing body of research by investigating unexamined psychological factors such as mindset (Dweck, 2006) and personality (Allen et al., 2013; Lavalley et al., 2005; Martin, 2004) both of which have been identified by past research and have the potential to influence athletes’ attitudes toward sport psychology consultant’s and the services they provide.

### **Personality**

The study of personality has been a consistent point of focus for researchers in the field of psychology and can be traced back to the early work of Freud (1923). The predictive power of

personality and influence of personality on key life outcomes (i.e., health, relationships, happiness, and criminality) is well document and evident in recent reviews (Hampson, 2012; Ozer & Benet-Martínez, 2006; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). Similarly, recent reviews addressing the influence of personality in the realm of sport provides strong evidence for the predict power of personality traits and the impact on athletic participation, performance and success (Allen et al., 2013).

Though there is no universally accepted definition for personality, it would seem appropriate to offer a description prior to examination of the personality literature as this will help to provide a consistent reference point. Past research defined personality as “the intrinsic organization of an individual’s mental world that is stable over time and consistent over situations” (Piedmont, 1998, p. 2). More recently, personality has been defined as “the sum of the characteristics - or blend of characteristics - that make a person unique” (Weinberg & Gould, 2015, p. 27). According to Piedmont (1998) “personality is something that defines who we are as people...it is the aggregate of our behaviors and attitudes...it is the ‘why’” to our ‘behavior’” (p. 1). In other words, personality is a combination of the psychological qualities or traits that shape an individual’s thought patterns, feelings, and behaviors (Cervone & Pervin, 2010).

In addition to the internal character traits mentioned above, others researchers have drawn attention to the dynamic nature of personality and the need to consider the external interaction with others and the environment (Robbins, Judge, & Vohra, 2010). Moreover, Jarvis (2006) notes there are four components that influence the way an individual responds to specific situations; 1) Genetics, 2. Previous experience, 3. Situational circumstances, and 4. Free will. Each of these internal and external components are considered, to a greater or lesser degree, by the various theories of personality.

## Personality Theories

Over the past few decades, various attempts have been made to conceptualize personality in a way that helps to define, categorize, and explain why individuals behave in a certain way and in certain situations. A review of the personality psychology literature reveals that the three most prominent personality theories include the traits approach (Cattell 1965; Cattell & Mead, 2008), situational approach (Mischel, 1990; 2009), and the interactional approach (Hollander, 1967).

**Traits theory.** The original proponents of the traits theory are Raymond Cattell (1965) and Hans Eysenck (1968) (Weinberg & Gould, 2011; 2015). The traits theories of personality places significant importance on the role of genetics in shaping individuality and behavioral responses. As such, strict trait theorists contend that one's personality is innate, stable, and thus consistent from one situation to another (Jarvis, 2006; Weinberg & Gould, 2011). Adopting a traits approach assumes that behavioral responses are self-governing and are, for the most part, unaffected by environmental influences. If this approach were true, in the strictest sense, then it would allow for psychologists to predict behavior in future situations. For example, in sport, if an athlete is competitive, he is likely predisposed to demonstrating a competitive spirit when competing regardless of the situation. It is important to note that a predisposition does not mean an athlete will always display this trait, it simply means that the athlete is more likely to be a competitor when playing (Weinberg & Gould, 2011). While there are a number of proponents of a broad traits theory of personality, it is not without criticism. According to Mischel (2009), various studies have yet to successfully establish a link between predictive behavior and traits of personality. Part of the criticism pertains to the failure to acknowledge changes in personality over time and that an individual's behavior can be significantly influenced by their situation, not

just their inherent genetic code (Friedman & Schustack, 2012; Pearson, 2008). This point is reiterated by Krueger and Johnson (2008) who state that “the effects of any specific genes are necessarily limited to a specific personality trait” and that “we must expect that the effects of specific genes may be contingent on other factors such as environmental circumstances or the presence of other genes” (p.304). In other words, the context, environment, and situation play an important role in how personality traits manifest themselves. These concerns, or perceived limitations, regarding the traits theory has prompted other theories being developed.

**Situational theory.** The second theory of personality is the situational approach (Mischel, 1968; 1990; 2009) which, in direct contrast to traits theory, supports the idea that personality is not simply genetically programmed by inherent characteristics but that one’s personality is learned through specific situations (i.e., observational and social learning theory). In other words, an individual will develop personality traits through environmental experiences and through the interactions with others (i.e., friends, colleagues, and parents) (Jarvis, 2006; Pearson School, 2008) and that individuals behaved differently depending on the context or situation. In other words, and in contrast to the traits theory, it is difficult to predict an individual’s behavior, via personality testing, in different situations. As an example, in the realm of sport, a soccer player could be highly confident in their shooting performance at practice, however, when they enter the competition environment (i.e., increased stress levels) their level of confidence may not be high due to negative previous competition performances which could translate to a drop-in shooting performance.

The foundational work by Mischel (1968), ‘Personality and Assessment,’ created a spirited debate within the psychology literature because it was often interpreted as the ‘power of the person’ [i.e. traits approach] versus ‘the power of the situation,’ [i.e. situational approach] to

argue about which was the bigger causal agent and which one accounted for more variance” (Mischel, 2009, p.283). In other words, Mischel was stating that an individual’s personality is the result of external forces whereas Eysenck was saying that your personality was an extension of what was inside (i.e., genetics).

That being said, more recent works by Mischel (2009) illustrates that this interpretation of the original message was an inaccurate. According to Mischel (2009) the key point and implication is that in terms of personality assessment, “we have to take account of the situation and its meaning for the individual...rather than splitting it or trying to estimate which side of it accounts [i.e., personal traits vs situation] for more of the variance in behavior” (p. 284). A criticism of social learning (situational) viewpoint was that lack of consideration given to influential factors that are genetically inherited (Pearson School, 2008). The research by Eysenck and Mischel created a spirited debate for a number of decades and discussions of this nature promoted the evolution of a third personality theory.

**Interactional theory.** While situational and traits theorist garner support, the consensus within the contemporary personality literature is that an individual’s personality and subsequent behavior is influenced by both inherent personality traits and situational determinants (Pearson School, 2008). This resulted in the development of the interactional approach, which gives consideration to a combination of genetic traits exhibited by an individual, situational determinants, and learned experiences (Kahn, Ahmed, & Abid, 2016; Weinberg & Gould, 2011; 2015). According to Hollander (1967) there are three constructs that interact to form personality: 1. psychological core, 2. typical responses, and 3. role-related behavior (Pearson School, 2008). The interactional perspective combines the situational and traits theory and suggest that personality is malleable and behavior is shaped when inherited genetic traits are stimulated by



environmental triggers (Weinberg & Gould, 2015). For example, in soccer, a player may possess the psychological trait of being short-tempered (i.e., easily moved to anger). This soccer player may not display this behavior all of the time, or in every situation, as it may only manifest itself in specific situations as a result of psychological triggers. An example of a trigger could be when the player is on the receiving end of a poorly timed challenge by an opponent, which causes the player to externally express anger in the form of a reckless outburst or challenges.

While the trait, situational, and interactional theories of personality are incomplete on some levels, they do help to provide a framework from which to examine and explain how and why athletes behave and respond to certain situations (Weinberg & Gould, 2015). Researchers use these frameworks to examine athletes' responses, which are used to design and determine the most effective intervention strategies to assist with behavioral change that subsequently positively impacts performance. The consensus within the sport psychology literature is that personality research is an important area of study that requires further investigation in order to better understand athletes (Allen et al., 2013; Allen & Laborde, 2014). Due to its significant influence in predicting behavior and performance-related outcomes, personality continues to be a point of focus within the field of psychology. Research shows that personality is an influential factor in relation to performance related outcomes (e.g., academic and athletic success) as well as health-related outcomes (i.e., weight management and psychological stress) in a variety of settings (Allen et al., 2013; Allen & Laborde, 2014).

### **Personality and Athletic Performance**

The role and importance of personality as a predictor for behavior in athletics is well documented in the psychology literature. For several decades, researchers have examined the significant impact of personality in sports participation, performance related outcomes, and

performance (Aidman, 2007; Aidman & Schofield, 2004; Allen, et al., 2013; Egloff & Gruhn, 1996; Hunenberg & Gould, 2015; Morgan, 1980; Kovacs, 2008; Nia & Besharat, 2010; Ogilvie, 1968; Sindik, 2011; Sohrabi et al., 2011; Tok, 2011; Dowd & Innes, 1981). The results indicate there is good evidence to suggest that athletic performance and success can be predicted, in part, by an individual's personality traits (Allen et al., 2013; Allen & Laborde, 2014). The following sections provide a review of the contemporary literature that has contributed to the collective understanding of the relationship between different personality traits and athlete performance success.

### **Athlete Personality Types**

In the realm of athletics, it has been suggested that athletes possess specific personalities and that these traits account for their success. However, results are inconsistent and thus the consensus is that there is no such thing as an 'athletic personality' prototype that is the sole indicator of success across all sports (Kahn et al., 2016). That being said, there is evidence that athletes who participate in individual sports may display certainly personality traits (i.e., conscientiousness and autonomy) more so than athletes participating on team sports who appear to display higher scores on other personality traits (i.e., agreeableness and sociotrophy) (Nia & Besharat, 2010). This line of research has prompted researchers to explore the development of Optimal Performance Indicators (OPI's) that aim to identify sport specific personality of elite level athletes (Khan & Ahmed, 2014). While there is no set recipe for personality traits to be successful in sport, there is a growing body of evidence that suggest certain personality traits are indicators for predicting athletic success at the national (Khan & Ahmed, 2014; Kahn et al., 2016) international level (Allen, Greenlees, & Jones, 2011), Paralympic level, (Martin, Malone,

& Hilyer, 2011) as well as those who make the successful transition from elite youth to the professional level (Aidman, 2007).

### **Personality and Athlete Performance**

Researchers have examined the relationship between personality and performance and results suggest an athlete's performance related outcomes and success in certain sports can, in part, be predicted by certain personality traits (Allen et al., 2013; Allen & Ladorbe, 2014; Sheard & Golby, 2011). Recently studies have investigated the relationship between aspects of personality and coping behaviors in sport (Allen, Greenlees, & Jones, 2011), seriousness and commitment to sport (Hungenberg & Gould, 2015), team achievement in football (Tran, 2012), national rankings in tennis (Kovacs, 2008), and national championships (Kahn et al., 2016).

Others have examined the role of personality in relation to game officials' performance (Sayfollahpour et al., 2013), high risk sports, (Kajtna, Tusak, Baric, & Burnik, 2004; Tok, 2011), individual versus team events (Nia & Besharat, 2010) as well as athletes and non-athletes (Egan & Stelmack, 2003; Hughes et al., 2003; Hoffman et al., 2013; Kajtna et al., 2004; Ladorbe, Guillen, & Mosley, 2016; Talyabee et al., 2013).

Another group of researchers have explored the influence of personality within different sub-groups of athletes with regard to level of competition (Aidmen, 2007; Allen et al., 2011; Kahn et al., 2016; Kirkcaldy, 1982; Martin, Malone, & Hilyer, 2011; Mirzaei et al., 2013; Sheard & Golby, 2011), across different sports (Johnson & Morgan, 1981; Rhea & Martin, 2010) and given consideration to gender, type of sport, as well as drive to win (Rhea & Martin, 2010; Sohrabi et al., 2011). As an example, when examining personality differences between athletes with non-athletes, Talyabee et al., (2013) found that there were significant differences in four (i.e., consciousness, neuroticism, agreeableness, and extroversion) of the five factors, but there

was no significant difference in regard to openness to new experiences. Furthermore, athletes displayed higher scores in conscientiousness, agreeableness, and extroversion, and lower scores than non-athletes in neuroticism. More recent studies, using different personality measures, revealed that athletes scored consistently higher in personality-trait-like individual differences (i.e., self-efficacy, positivity, resilience, self-esteem, and perseverance) than non-athletes and that individual sport athletes score higher than team sport athletes (Ladorbe, Guillen, & Mosley, 2016).

In terms of team versus individual sports, studies revealed that athletes in team sports scored higher in personality traits such as agreeableness and sociotrophy than athletes from individual sports, but that there was no significant difference in relation to neuroticism, openness, and extroversion (Nai & Besharat, 2010). As for team sports such as football, research revealed that of the Big Five personality traits conscientiousness and neuroticism were the two variables that significantly predict football ranks (Tran, 2012). As for individual sports such as tennis, research indicates that athletes with high levels of conscientiousness and emotional stability scored higher in international rankings (Kovacs, 2008). In a recent study, using the Five-Factor Model (FFM) (Costa & McCrae, 1992), Teshome et al., (2015) investigating the relationship between personality traits and performance of national level soccer players provided insight into the impact of differentiating personality traits in a sport setting. Results revealed that of the five dimensions of personality, only conscientiousness had a positive significant correlation and was deemed to be the main predictor of sports performance. The results from this study are consistent with other studies, with more robust samples sizes, which also indicated that conscientiousness was the predictive personality trait that had a positive significant correlation with performance of elite soccer players (Mirzaei, Nikbakhsh, & Sharififar, 2013). In a more recent

study (Kahn et al., 2016), examining the personality traits of male and female national championship athletes across various sports individual sports (i.e., karate, judo, taekwondo, boxing, and wrestling) revealed that four traits, (i.e., openness, conscientiousness, extroversion, and neuroticism) displayed positive significant relationships with performance. Additionally, lower levels of agreeableness correlated with higher levels of performance. The results from this study support the premise that high personality traits such as openness, conscientiousness, extroversion, and neuroticism are positively associated with higher performance in certain sports. Moreover, in individual sports high levels of agreeableness negatively correlates with better performance. Results from the aforementioned studies are informative and support the relationship between certain personality traits and athletic performance, but as noted by various researchers, gaps remain in the sport psychology and personality literature (Allen & Laborde, 2014; Allen et al., 2013 Weinberg & Gould, 2015). Specifically, the results highlight that accurately identifying the individual differences in personality characteristics or traits has important implications for the predictability of athletic performance across sports and may have implications for the predictability of other facets of applied sport psychology such as an athletes attitude toward sport psychology consultants.

### **Personality and Sport Psychology Consultants**

There is a dearth of research examining the relationship between the influence of differentiating personality traits and athletes' attitudes toward sports psychology consultants and the services they provide, especially at the collegiate level (Martin et al., 2004). One aim of this study is to contribute to the personality research literature by better understanding the relationship between certain personality traits and student-athletes' attitudes toward sport

psychology consultants. To date, the relationship between these constructs has received limited attention and thus the relationship and results remain unclear (Allen et al., 2013).

Given the well-documented influence of personality traits on academic and athletic performance, it stands to reason that it is also critical to identify and understand the individual differences (e.g., personality traits) that positively or negatively impact other settings such as the consultation process between athlete and sport psychology consultants. Research of this nature has received limited attention and may have important implications for sport psychology consultants (Allen et al., 2013). A key objective for this study is to examine the relationship between personality traits and attitudes toward sport psychology consultants because a failure to acknowledge and understand the influence of personality potentially impacts the sport psychology consultants overall effectiveness when delivering psychological skills training. Despite significant attention and the historical impetus behind understanding the impact of personality in the realm of sport, the study of personality in relation to sport psychology consultant and athlete consultation process, is limited and thus required further examination (Allen et al., 2013).

The need to further examine personality is noted by multiple researchers (Lavalley et al., 2005; Martin et al., 2004) who highlight more research into the influence of "personality type" in relation to athletes' attitudes toward sport psychology consultants is required. According to Allen et al., (2013) the relevance of personality research in relation to the sport psychologist and the athlete consultation process is that it shifts the discussion from the impact of content and interventions (i.e., psychological skills training programs) to factors that potentially influence an athlete's receptiveness to the services provided by sport psychology consultants. In order to be effective, sports psychology consultants must be conscious of the effect personality has on "the

engagement in acceptance of recommended intervention strategies [psychological skills training]” (Allen, Greenlees, & Jones, 2013, p. 26). Athletes must first be willing to engage in the consultation process before they can be educated and benefit from the psychological skills training provided. Establishing an understanding of the influence personality traits can only benefit and improve the effectiveness of the strategies provided by sports psychology consultants. If shown to be influential, personality may need to be considered as an important factor when matching consultant and athlete (i.e., personality conflicts) when designing, implementing and preparing athletes to engage in psychological skills training program.

### **Personality Assessment**

Over the last few decades researchers have dedicated considerable attention to the design of various assessment tools to examine the nature of personality. The purpose of personality scales is to help identify, assess, and measure various aspects of an individual’s personality. Some of the more notable personality assessment scales include the HEXACO model (Ashton et al., 2004; Ashton & Lee, 2009), the Alternative Five Model Personality (Zuckerman et al., 1991), International Personality Inventory (IPIP) (Goldberg, 1999), the NEO Five-Factor Inventory (NEO–FFI; Costa & McCrae, 1992) and a number of others. Similar to all personality assessment tools, each of these measurement tools have certain advantages and limitations in their reliability, effectiveness, and use (Mohd Khir et al., 2016).

### **Big Five Model**

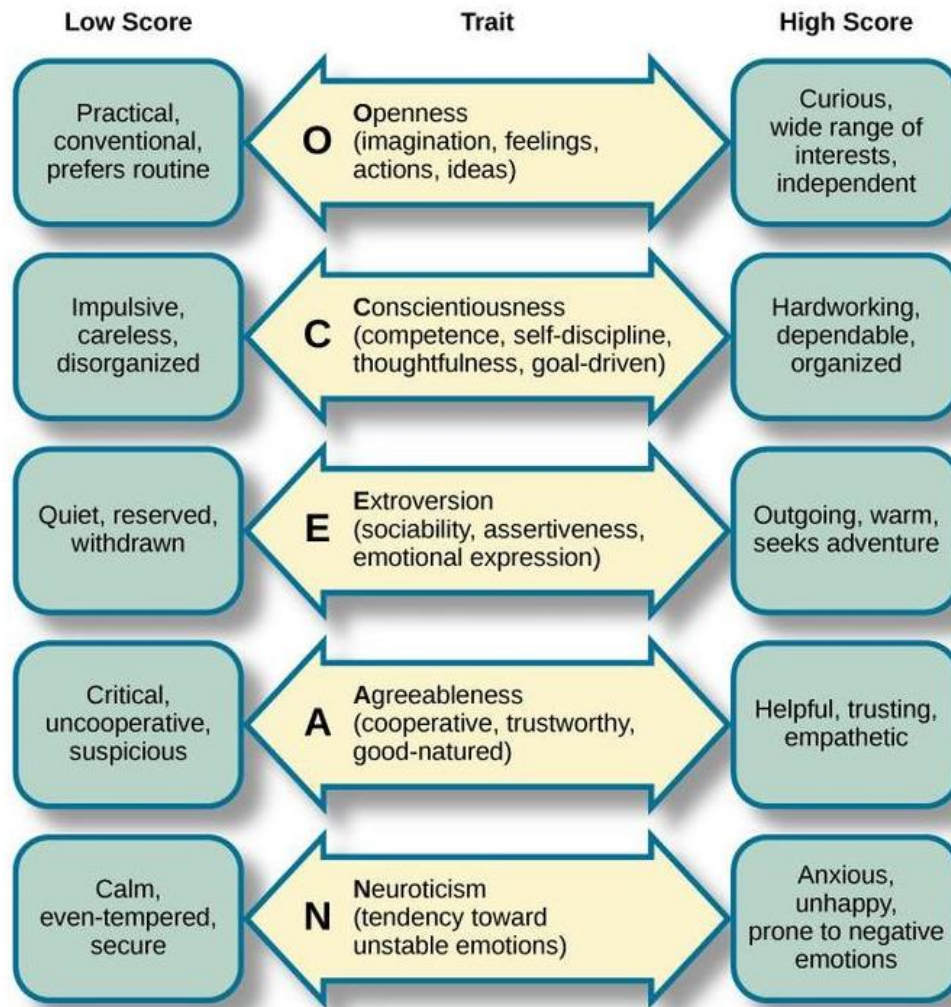
Few would argue that the most extensively used and studied personality assessment tool in contemporary personality psychology is the five factor model (i.e., Big Five personality framework) (Kahn et al., 2016). Across a variety of fields and contexts (i.e., employment, academics, athletics, and several others), the Big Five has frequently been shown to be reliable,

valid, and comprehensive framework for measuring personality (Costa & McCrae, 1992; Costa & McCrae, 2008; Goldberg, 1999; Howard & Howard, 1995; McCrae & Costa, 2008; O'Connor, 2002). The five-factor model has been utilized to assess the relationship between personality and job performance (Barrick & Mount, 1991), job satisfaction (Judge, Heller, & Mount, 2002), and performance motivation (Judge & Ilies, 2002). Furthermore, a cross-cultural examination of the five-factor model in more than 55 cultures confirm the universality of the five-factor model across various cultural settings (McCrae, 2002; Schmitt et al., 2007; 2008). For this reason, and because it has been shown to be reliable and valid when used to assess the influence of personality on sports participation, performance and success (Kahn et al., 2016; Nia & Besharat, 2010; Sindik, 2011; Teshome et al., 2015; Tok, 2011; Tran, 2012), the Big Five was deemed the most appropriate and pertinent psychometric measurement tool for this study.

The Big Five personality measurement categories an individual's personality into the following dimensions: Openness, Conscientiousness, Extroversion, Agreeableness, and Neuroticism (or OCEAN) (Costa & McCrae, 2008; Ravi, 2016). The first dimension, openness to experiences, refers to an individual who is curious, flexible and receptiveness to new ideas and experiment with new activities. Openness to new experiences is considered a positive trait for career success (Kahn et al., 20016). The second dimension, conscientiousness, refers to an individual's dependability, attention to detail, and desire to achieve goals. It is logical to assume that athletes who display high scores in conscientiousness increase their chances of being successful, especially at the higher levels in sport. The third dimension, extroversion, refers to an individual's tendency toward being introverted or extroverted. Individuals who score high in extroversion are often more social, talkative, and assertive. The fourth dimension, agreeableness, refers to humanity traits such as trust, altruism, and compliance (Nia & Besharat, 2010). Athletes



high in agreeableness are more likely influenced by their teammates and in some cases, are less assertive at making decisive decisions. Kahn et al., (2016) argue that athletes high in agreeableness are not the most suited for contact sports because they more time to make decisions and are less assertive. The final dimension, neuroticism, refers to an individual's emotional stability and their tendency to experience and effectively cope with negative emotions (i.e., fear, anxiety etc.). Individuals who score high in neuroticism are more likely to experience psychological distress and negative emotions such as fear and struggle with managing these emotions. Conversely, lower scores indicate that an individual is more emotionally stable and thus manage their emotions effectively (i.e., are more calm in stressful situations). Figure 2.1 provides a summary of the characteristics associated with the five traits in the Big Five model.



Source: <https://www.boundless.com/psychology/textbooks/boundless-psychology-textbook/personality-16/trait-perspectives-on-personality-79/the-five-factor-model-311-12846/>

*Figure 2.1.* The Big Five Personality Traits

For example, in a study of high level basketball players, results showed a positive correlation with emotional stability (i.e., low scores in neuroticism) and performance (Sindik, 2011). Similarly, an investigation of personality differences in those who participate in high risk sports (i.e., hang-gliding, skydiving, rock climbing) show lower scores in neuroticism (i.e., emotional stability) than those who don't (Tok, 2011; Watson & Pulford, 2004). Taken together

the results suggest that the performance of high level basketball players and those who engage in high risk sports have a tendency to be more emotionally stable.

These studies highlight the renewed interest in the examining of the influence of personality in the realm physical activity (Allen & Laborde, 2014) and different aspects of sport performance (Allen, Greenlees, & Jones, 2011; Egan & Stelmadt, 2003; Hughes et al., 2003; Hungenberg & Gould, 2015; Kahn et al., 2016; Kajtna et al., 2004; Mirzaei et al., 2013; Talyabee, Moghadam, & Salimi, 2013; Rhea & Martin, 2010; Sayfollahpour, Ganjooee, & Nikbakhsh, 2013; Sheard & Golby, 2011; Tran, 2012). As noted throughout the personality literature, athletes possess different personality types and their underlying personality traits, especially in a competitive setting, invariably contribute to their level of commitment and engagement, behavior, and thus, their performance (Allen et al., 2011; Allen et al., 2013; Allen & Ladorbe, 2014; Cuperman & Ickes, 2009). However, as noted by Allen et al., (2013), sport personality research has stagnated thus has not maintained the same growth as other lines of research within the field of psychology. As an example, one line of research that remains unclear is the influence of personality on the sport psychology consultant and athlete consultation process. For this reason, and because it has been shown to be reliable and valid when used to assess the influence of personality on sports performance (Kahn et al., 2016; Nia & Besharat, 2010; Sindik, 2011; Tok, 2011), the Big Five was deemed the most appropriate and pertinent psychometric measurement tool for this study.

### **Mindset**

Another area receiving increased attention is Dweck's (1999; 2006; 2009; 2011) work on mindset, which distinguishes between two different belief systems (i.e., fixed mindset or growth mindset) that shape the way individuals view themselves and their abilities. Mindset refers to an

individuals' beliefs about the nature of their abilities or attributes such as intelligence, ability (physical and psychological), personality, or moral character (Dweck, 2011). Some individuals adopt a fixed mindset toward their ability and thus assume that each person was born with a certain amount of ability (e.g., fixed ability) that cannot be changed or developed. In other words, one's level of ability is set. In contrast, individuals who adopt a growth mindset uphold the belief that their abilities can be developed through effort over time and dedication to the improvement process (Dweck 2006; Dweck 2009). With this belief, individuals with a growth mindset are more likely to invest more time into the development process and are often more receptive to opportunities that can enhance their performance. For example, an athlete with a growth mindset adopts the attitude that their psychological abilities are malleable and therefore may be more open and receptive to toward sport psychology consultants because they believe they can help them grow. Conversely, an athlete with a fixed mindset doesn't believe the psychological abilities can be developed further and thus may have a more closed attitude toward sport psychology consultants. The unanswered question is whether an athlete's mindset is a factor that directly affects their attitude toward sport psychology consultants.

### **Mindset and Athletic Performance**

More recently, researchers have expanded their focus on mindset into the field of athletics to establish if there is a similar impact. A study by Potgieter & Steyn (2010) examined elite athletes competing that regional, national, and international level to determine if there was a difference in mindset in relation to their response to success and failure. Results revealed that athletes who display a growth mindset tend to respond more positively to success and failure than those with a fixed mindset (Potgieter & Steyn, 2010). On a related note, more recent qualitative study, investigating the mindset of elite track athletes, showed that athletes who

adopted a growth mindset believed that effort, feedback, and focusing on learning were as important as innate talent in the pursuit of success (Jowett & Spray, 2013). More recent attempts examining the use of growth mindset principles to enhance mental toughness and psychological wellbeing in athletes demonstrated positive short-term effects (Golby & Woods, 2016). However, other studies examining the relationship between mindset and mental toughness across different contexts such education, athletics, and the workplace revealed that not all participants subscribe to the view that mental toughness malleable (Gucciardi et al., 2014).

Results from these studies reiterate that the mindset of the individual is important because it is the lens that shapes an individual belief and attitude toward any given area of life. Whether individuals believe that their intellect, abilities, and core qualities are innately fixed by nature (entity theory or fixed mindset) or whether these qualities are malleable and can be developed (incremental theory or growth mindset) has been shown to be a determining factor in a variety of settings. According to Halvorson (2010), individuals who adopt a growth mindset focus on the process, or ‘get-better’ goals, as opposed to a fixed mindset, which focuses on “be-good” goals. Longitudinal research has demonstrated a correlation between a growth mindset and academic achievement (Blackwell et al., 2007) and improvements in academic performance (Good, Aronson, & Inzlicht, 2003). Research indicates that those who possess a growth mindset have an advantage over those who have a fixed mindset especially when it comes to improving, dealing with setbacks, working through difficult situations, receptiveness to feedback, and perceiving aspects of their ability as malleable (Dweck, 2006; 2009).

### **Mindset and Sport Psychology Consulting**

Research examining the role of mindset in the realm of sport psychology, specifically consulting services, has received limited attention (Golby & Woods, 2016; Jowett & Spray,

2013). Considering the amount of research pertaining to mindset (and self-theories) (Dweck, 2000; 2005; 2006; 2008; 2009; Jowett & Spray, 2013; Potgieter & Steyn, 2010), and the impact it has across various domains, it is logical to assume that athletes who display a growth mindset will respond more favorably to engaging in the consultation process as they have a desire to improve their psychological skills. Considering the well-documented positive impact mindset (i.e., growth mindset) has on individual performance in domains such as academics and athletics (Dweck, 2006), it is of interest to examine the ways in which mindset influences an athlete's attitudes toward sports psychology consultants and the services they provide. As noted by Dweck (2000; 2005; 2006; 2008; 2009), the key to improving is first believing that one can improve. Therefore, it is hypothesized that those who adopt a growth mindset (i.e., believe they can improve their psychological abilities) would possess a more receptive attitude toward sport psychology consultants than those who possess fixed mindset (i.e., don't believe they can improve their psychological abilities). The need to further investigate the impact of psychological factors is reiterated by Massey et al., (2015) who showed that psychological states (i.e., readiness for change) are important considerations when designing and delivering psychological skills programs.

This study expands on the dearth of existing research examining the relationship between mindset and sport psychology consulting and would help provide a more comprehensive understanding of the relationship between mindset and attitudes toward sport psychology consultants. According to Dweck's (2006) mindset (i.e., fixed mindset vs. growth mindset) is the lens or frame of mind which orients an individual to a particular set of beliefs and expectations, which in turn influences the attitude toward their abilities in specific domains. Dweck's (2006) work on mindset explains the important role mindset has on an individual's psychological state

in an athletic setting, and could potentially have a similar influence on an athlete's attitude and receptiveness toward sport psychology consultants. Developing an understanding of the influence psychological processes, such as mindset, has on the consultation process can only benefit and improve the effectiveness of the strategies provided by sports psychology consultants.

Given the growing involvement and integration of sport psychology consultants within collegiate athletic programs (Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wilson et al., 2006), the purpose of this study is to build on the existing body of research by investigating unexamined psychological factors such as mindset (Dweck, 2006) and personality (Lavallee et al., 2005; Martin, 2004; Allen et al., 2013) both of which have been identified as gaps in the sport psychology literature. This line of research will help to bridge the knowledge gap that exists and thus better inform toward sport psychology consultants about the factors that influence athlete's attitudes toward the services they provide.

### **Summary**

The aim of this study is to address the gaps in the sport psychology consulting literature pertaining to factors that impact athlete's attitudes toward sport psychology consultants. This review of literature provides a detailed historical and contemporary examination of the research relating to sport psychology and the various subdomains. This chapter also provided an in-depth examination of the literature regarding personality theories and mindset and their influence across various domains (i.e., academics, athletics etc.). A review of the literature reveals that dimensions of an individual's personality and mindset impact performance at various levels and across various setting. However, while their influence is well-documented there is a dearth of research examining their influence on athletes' attitudes toward sport psychology consultants and

thus their impact remains unclear in an athletic population. The purpose of this study is to add to the existing research and gain insight that can better inform sport psychology consultants about the influence of personality and mindset on athletes' attitudes toward sport psychology consultants.



## **CHAPTER 3**

### **METHODOLOGY**

The purpose of this study is to bridge the gap that remains in the sport psychology literature by examining the influence of mindset and personality on student-athletes' attitudes toward sports psychology consultants. This chapter provides a review of the research design that frames this study, the methodological approach, research questions, setting, sample and participants, survey instrument, the variables and the data analysis procedures. Conclusively, this chapter includes a detailed description of the limitations and delimitations of the study.

#### **Research Design**

This study employed a quantitative research design by utilizing a survey methodology approach and that is correlational in nature. Adopting a survey methodological approach provides a quantitative description of trends, attitudes, or opinions, of a population by examining a sample of a specific population (Creswell, 2009; 2014). In terms of epistemology (i.e., how we know what we know), this study is underpinned by an objectivistic epistemological view, which refers to “the belief that objective science is possible and desirable” (Vogt & Johnson, 2011, p. 265) and the belief that there is only “one reality; knowable within a specified level of probability” (Creswell, 2009, p. 13). Adopting this approach affirms the position that knowledge exists “independent of consciousness and experience” (Crotty, 1998, p. 5) and can be obtained, understood and measured. Adopting an objectivistic epistemological view reflects the principles of scientific research (Creswell, 2009).

Additionally, this study design is also grounded in a post-positivist theoretical framework, which advocates “a deterministic philosophy in which cause probably determines effects and outcomes” (Creswell, 2009, p. 7). Adopting a post-positivist perspective is validated

because “the knowledge that develops through a post-positivist lens is based on careful observation and measurement of the objective reality that exists out there in the world” (Creswell, 2014, p. 7). Consequently, conducting research in the context of this theoretical perspective lends credibility to the research process and confidence in the results (Crotty, 1998). From a post-positivist theoretical perspective, the key underlying assumptions are as follows:

1. Knowledge is conjectural (and antifoundational)—absolute truth can never be found.
2. Research is the process of making claims and then refining or abandoning some of them for other claims more strongly warranted.
3. Data, evidence, and rational considerations shape knowledge.
4. Research seeks to develop relevant, true statements, ones that can serve to explain the situation of concern or that describe the causal relationships of interest.
5. Being objective is an essential aspect of competent inquiry; researchers must examine methods and conclusions for bias. (Creswell, 2009; 2014)

Regarding data analysis and interpretation, adopting a post-positivist perspective affirms the role of the researcher as this approach provides “assurance of unambiguous and accurate knowledge of the world” (Crotty, 1998, p. 18). Post-positivist is considered to be “reductionist, logical, empirical, cause-and-effect oriented, and deterministic based on a priori theories” (Creswell, 2013, p. 24). Therefore, grounding the study in the post-positivist theoretical perspective is validated by the fact that it helps to ensure objective outcomes as a result of being based on a reliable scientific method (i.e., observable and measurable variables with sound guidelines) and not subjective or value-laden assumptions (Creswell, 2009; 2014). Identifying the epistemological viewpoint (i.e., objectivism) and theoretical perspective (i.e., post-positivism) that inform the methodology is critical because it provides a context for the process

and assurance that the research was conducted in a logical, credible, and reliable manner (Crotty, 1998).

### **Methodological Approach**

A survey research design was employed to collect relevant data from a range of student-athletes. Survey research is a standard methodological approach used in post-positivist research and is a “widely used and acknowledged research tool in most of the developed countries” (Rea & Parker, 2014, p. 3). The use of surveys is appropriate and pertinent if the objective is to examine correlations between participants’ responses (Fraenkel & Wallen, 2009) and when seeking to obtain statistics about a specific population (Fowler, 2009). When implemented and executed correctly, survey research is an accurate and reliable method of data collection (Rea & Parker, 2005; 2014). The process involves collecting quantitative data by identifying a specific sample of the target population and strategically questioning them about specific topics (Fowler, 2009; 2014; Rea & Parker, 2005). Although survey research is not error free or without limitations (Alreck & Settle, 2004; Fowler, 2014), its objective is to minimize error and thus it is widely accepted as a credible, accurate, reliable, and valid methodological approach (Alreck & Settle, 2004; Fowler, 2009, 2014; Rea & Parker, 2005, 2014).

A survey research methodology was deemed most pertinent and appropriate because the objective is to obtain data about participants on a number of levels regarding a variety of factors (i.e., demographics, mindset, and personality) that potentially influence student-athletes’ attitudes toward sport psychology consultants. The target population for this study was collegiate level student-athletes. According to Fowler (2009; 2014), a reliable survey is comprised of three components, which include sampling, question design, and data collection. While each of these three components has “many applications outside of sample survey...their combination is

essential to good survey design” (Fowler, 2014, p. 3). Regarding sampling, the key considerations are: 1) the decision to use a probability sample, 2) identifying who will be included in the sample, 3) the sample size, and 4) the overall accuracy of the data collected.

As for the survey design, it is sagacious to utilize previously validated and published survey instruments to help determine the relevance, reliability, and validity of the questions. This approach may also help to make the process more efficient by saving time and resources (Alreck & Settle, 2004; Boynton & Greenhalgh, 2004). However, it is important to note that just because a survey has been utilized in previous studies it does not guarantee that it is reliable, valid, or pertinent (Boynton & Greenhalgh, 2004). Therefore, it is critical for the researcher to consult specialist texts and resources to construct a survey that is reliable and measures what it claims to measure. Furthermore, a decision has to be made as to whether a pilot study or pre-testing phase should be incorporated to examine whether the questions are designed in a way to solicit relevant feedback that is required (Boynton & Greenhalgh, 2004).. The third and final consideration, when designing a survey, relates to the manner and mode in which data are collected. Ensuring that the mode is appropriate and comprehensive significantly impacts the quality, accuracy, reliability, and detail of the data collected (Fowler, 2009; 2014). No methodological approach to data collection is without limitations as each has their advantages and disadvantages. However, the key is to select a reliable approach that allows the researcher to collect accurate data that pertains to their study design and measures what it claims to measure (Boynton & Greenhalgh, 2004).

### **Survey Research Advantages**

Carefully constructed survey research designs are a widely accepted and reliable method of data collection because they provide accurate and valid data (Fowler, 2009; 2014; Rea &

Parker, 2014). Survey research has a minimal, but acceptable, level of error and is considered reliable when the survey has been comprehensively constructed and the previous discussed components (i.e., sampling, question design, and data collection) have been carefully vetted (Fowler, 2014). The rationale for utilizing surveys within this study relates to the need to collect quantitative information regarding a variety of areas pertaining to participants (i.e., demographics, attitude, mindset, personality etc.) and the degree to which these factors influence attitudes toward sport psychology consultants. One of the basic advantages of using survey research is the fact that it is highly efficient and can be cost and time effective (Alreck & Settle, 2004). The primary advantage of employing a sample survey technique “is the ability to generalize about an entire population by drawing inferences based on data draw from a small portion of that population” (Rea & Parker, 2014, p. 7).

Surveys can serve multiple purposes in that they can be constructed to measure simple things such as demographics or more complex characteristics such as attitudes and beliefs (Alreck & Settle, 2004). Moreover, surveys are highly adaptable in that they are easily customized to meet the needs and budget of the researcher and the scope of the research as well as accommodating in that they can be administered efficiently, anonymously and confidentially (Alreck & Settle, 2004; Rea & Parker 2014). Additionally, surveys can be completed by the respondent at a time that is convenient for his or her schedule. The overarching benefit for employing the survey method is the ability to collect data efficiently and effectively from a “small portion” of the target population, which can then be examined to extrapolate generalizations about an entire population at a specific point in time (Rea & Parker, 2014, p. 7).

## Survey Research Limitations

As is the case with all methodological approaches to data collection, survey research has potential limitations and is not without error (Alreck & Settle, 2004; Fowler, 2014). While accepted as a reliable method for collecting accurate and valid data, it is worth noting that the survey method does have a minimal level of error (Fraenkel & Wallen, 2009; Fowler, 2009; 2014; Rea & Parker, 2014). According to Fowler (2014), there are three forms of error: 1. Sampling error, 2. Bias errors, and 3. Response error. Sampling error describes “random variation from the true characteristics of the population” which refers to errors that are a result of the fact that the data collected is a sample of the population and thus not a comprehensive or complete representation of each individual within the whole population.

The second category of potential error that can occur in survey research refers to bias error. Bias error refers to the potential error that occurs as a result of “some systemic way the people responding to a survey are different from the target population as a whole” (Fowler, 2014, p. 10). This study employed non-probability purposive sampling which is a form of “sampling in which the researcher uses judgment in selecting respondents who are considered knowledgeable in the subject area related to the research” (Rea & Parker, 2014, p. 316). With this sampling technique, there is the potential for an element of bias within the sample, which the researcher acknowledges and accepts (Fraenkel & Wallen, 2009; Fowler, 2014; Rea & Parker 2005; 2014). However, as Fowler (2014) recommends, the researcher has given careful consideration to the key aspects (i.e., sampling, question design, and data collection) to minimize any element of bias during the data collection process.

The third potential error relates to the accuracy of the participant’s response. When measuring items such as psychological states a participant’s response consists of two

components: the true score (only available if the participant has developed a comprehensive knowledge pertaining to the question) and some element of error due to participants not having a complete knowledge of the topic or question. There are a variety of reasons (e.g., confusion on question understanding or intentionally distorting responses or answers) as to why participant response errors occur and they are difficult to prevent. As suggested by Alreck and Settle (2004) the research took the necessary step to carefully execute a comprehensive plan to avoid errors and minimize oversights. The development of the survey instrument used in this study and the procedures for data collection are explained in their respective sections later in this chapter.

### **Research Questions**

The following research questions were addressed in this study:

1. What are the background characteristics of the participants in this study?
2. To what extent is there a statistically significant difference in athlete's attitudes (i.e., Lack of Openness to, Confidence in, Stigma toward, and Culture Preference) toward sport psychology consultants based on: a) gender b) ethnicity c) year of school d) type of sport?
3. To what extent is there a statistically significant relationship between student athletes' mindset and attitudes toward sports psychology consultants; specifically, a) lack of openness to sport psychology consultant b) confidence in sports psychology consultants, c) Stigma toward sport psychology consultant, d) cultural preference toward sport psychology consultant?
4. To what extent is there a statistically significant relationship between student athletes' attitudes (i.e., Lack of openness to, Confidence in, Stigma toward, and Culture Preference) toward sport psychology consultants and personality a) Extroversion, b) Agreeableness, c) Conscientiousness, d) Neuroticism, and e) Openness?

5. To what extent does, gender, ethnicity, year in school, type of sport, growth mindset athletic abilities, growth mindset athletic behavior, and personality (i.e., Extroversion, Agreeableness, Conscientiousness, Neuroticism, Openness) predict a) lack of openness toward sport psychology consultants, b) confidence in sport psychology consultants, and c) stigma toward sport psychology consultants, d) cultural preference toward sport psychology consultant?

### **Procedures for Data Collection**

The participants for this study are collegiate level student-athletes. The survey was distributed to student-athletes, both male and female, who are actively participating at the collegiate level at post-secondary institutions' in the central United States. The following sports were represented: cross country, tennis, track and field, football, soccer, rowing, and golf. The survey was distributed through Qualtrics.com. Qualtrics survey software is a well-respected robust resource utilized by academic researchers for survey research and provides a reliable method through which to collect data on participants. Prior to distribution, the study and survey were approved by Drake University's IRB. The survey was made available over a four-week period with two reminder messages sent to potential participants after five and 10 days.

While there are a number of athletic programs in the central United States, this study was narrowed to participants competing at any of the NCAA Division I, II, III, NAIA, and NJCAA levels. The sampling design for this population was multistage, also referred to as clustering. Clustering sampling is common place in quantitative research and is ideal when it is impractical to compose a complete list of all aspects related to the population (Babbie, 2007). Because a nation-wide database for student-athletes contact information is not publically available, it makes it extremely challenging to make contact with everyone in this specific population. Therefore,



the researcher engaged in chain referral sampling, in which contact with student-athletes was initiated through a recruitment email sent to a third party (i.e., Athletic Directors and Head Coaches: see Appendix A). These individuals were asked if they would be willing to a) provide the contact information for student-athletes that may be appropriate for this research study or b) if they would be willing to directly forward my invitation to participate in this study. Once permission was granted, an email was sent to all potential participants that included all elements of consent that should be considered prior to participating in the study (see Appendix B). Participation in this survey was completely voluntary and participants were able to refuse to participate or leave the survey at any time. No direct compensation was provided for participation in this survey beyond the opportunity to win one of five \$25 gift certificates. If a participant voluntarily provided an email address they were entered into a drawing to win one of five \$25 gift certificates. The email addresses were used for purposes of a random drawing and were not tied to individual results. All results were kept confidential. In any written reports or publications, participants are not identified. To ensure confidentiality to the extent permitted by law, the following measures were taken: data are stored on an encrypted, password-protected hard drive, which is stored in a locked cabinet that only the researcher can access. Data will be stored for at least three years, or until it is deemed no longer useful for research purposes.

### **Sample and Setting**

Participants in this study were college athletes from Midwestern post-secondary institutions and ranged from freshman to graduate school students. The majority of the participants were male and ranged in their ethnicity as well as major. At the closing of the survey window, there were 293 submitted survey responses. Of these 293 responses, 73 had one or more

missing responses and thus were removed from the data set. The resulting final data set included 220 cases. Table 3.1 provides an overview of demographic information on participants.

Table 3.1

Participants Frequency Distribution ( $n = 220$ )		
Variable	$n$	% of sample
Gender		
Male	162	73.4
Female	58	26.4
Ethnicity		
White	186	84.5
Hispanic	9	4.1
Black/African American	19	8.6
Other	6	2.7
Year in School		
Freshman	59	26.8
Sophomore	64	29.1
Junior	41	18.6
Senior	44	20.0
Fifth year	6	2.7
Graduate	6	2.7
Type of Sport		
Cross Country	18	8.1
Football	76	34.5
Golf	6	2.7
Soccer	138	62.7
Rowing	16	7.2
Tennis	17	7.7
Other	21	9.5
Major in School		
Business	100	45.5
Education	11	5.0
Health Science	38	17.3
Psychology	8	3.6
Journalism	6	2.7
Other	57	25.9
Grade Point Average		
A=90%-100%	75	43.2
B=80%-89%	97	44.1
C=70%-79%	27	12.3
F=0-59%	1	0.5
Experience with a consultant		
0=no previous experience	176	80.0
1= 1 consultant session	20	9.1

Table 3.1 (continued)

Participants Frequency Distribution ( $n = 220$ )		
Variable	$n$	% of sample
Experience with a consultant		
2= 2 consultant session	7	3.2
3= 3 consultant session	5	2.3
4= 4 consultant session	3	1.4
4+= More than 4 consultant session	9	4.1

### Survey Instrument

The survey instrument (Appendix C) was constructed specifically for this study through the use of already established surveys and questions informed by prior research. The survey consists of 58 close-ended questions that ask student-athletes to self-report on a range of areas including demographics, attitudes (i.e., lack of openness, confidence, and stigma toward) toward sport psychology consultants, mindset, and personality. In addition to demographic questions, the survey was developed through a combination of questions from three robust and widely used instruments. First, the section on sport psychology was informed by the Sports Psychology Attitudes – Revised (SPA-R) form (Martin, Kellman, & Page, 2002). Second, the mindset section was informed by the Mindset Survey by Dweck (2006) which centers on theories of intelligence. The third, and final, component was developed based on the Big Five Personality model (Costa & McCrae, 1992; McCrae & Costa, 2003: 2008). Data collected from the survey were used to examine the influence of independent variables (i.e., mindset and personality) on student-athletes attitude toward sport psychology consultants.

### Variables

The following section details each independent variable (IV) and dependent variables (DV) as well as how they were measured in this study.

#### Independent Variables

The method of measurement for the independent variables and those identified as demographic variables is outlined below. Of the independent variables that were used in this study, five were construct variables as detailed in the next section, measurements of non-construct variables are also detailed in the following section.

**Demographics.** Demographic data were collected for age, school year, ethnicity, gender, GPA, major, type of sport (i.e., soccer, football, tennis, golf, rowing, cross country, other), and competition level (e.g., DI, DII, DIII, NAIA, NJCAA).

**Age.** Age was measured from participants' responses and measured on a continuous scale.

**Year in School.** Year in school was measured by 1 = freshman, 2 = sophomore, 3 = Junior, 4 = Senior, 5 = fifth year, 6 = graduate.

**Race/ethnicity.** Race/ethnicity was measured by participants' self-identification from the following options: 1 = White, 2 = Hispanic or Latino, 3 = Black or African American, 4 = Native America or American Indian, 5 = Asian/Pacific Islander, 6 = other. For the regression analysis, this variable was recoded to 1 = majority, 0 = non-majority.

**Gender:** Gender was measured using a dichotomous categorical variable with 0 = male and 1 = female.

**Grade Point Average (GPA).** GPA was reported and measured using a continuous scale.

**Major.** Major was reported using the following options: 1 = Business, 2 = Education, 3 = Health Science, 4 = Psychology, 5 = Journalism, 6 = other.

**Division of Competition.** Competition level was measured using the following options: 1 = NCAA DI, 2 = NCAA DII, 3 = NCAA DIII, 4 = NAIA, 5 = NJCAA.

***Access to Sports Psychology Consultant.*** Participants were asked to list the number of times they have consulted with a sports psychologist which was recorded as 0, 1, 2, 3, 4, or “if more than 4, list the number.”

***Satisfaction with Sports Psychology Consultant.*** Participants were asked to rate their level of satisfaction with their experience with a sports psychologist by selecting from the following options: 1 = “Not at all satisfied;” 2 = “Somewhat Satisfied;” 3 = “Satisfied;” 4 = “Very Satisfied”, and 5 = “Extremely Satisfied.”

### **Factored Constructs**

Ten variables were developed through exploratory factor analysis. Factor analysis refers to the process of reducing a large number of variables into a smaller number of variables and identifying patterns among the variations of the values. According to Vogt and Johnson (2011) “a factor is a set of variables, such as items on a survey, which [sic] can be conceptually and statistically related or grouped together” (p. 137). A principle component with a varimax rotation approach was used for the factor analysis.

Regarding factor loading standards, Tabachnick and Fidell (2007) note that only items with loadings of .32 and above should be interpreted. Thus, a conservative approach of .44 was be used as the minimum standard for factor-loading in order for an item to be considered acceptable and used within the factor construct. Additionally, Kaiser’s measure of sampling adequacy (KMO) was also be used to evaluate the relevance of each construct as this is “often considered a minimum for conducting a factor analysis” (Vogt & Johnson, 2011, p. 196). KMO statistics can range from 0 to 1, with .70 being considered the minimum standard when conducting a factor analysis. Each construct was evaluated using Exploratory Factor Analysis to

establish which items within each construct met the minimum loading factors (i.e., .44 or higher) and KMO standards (i.e., 0.70 or higher).

### **Mindset Scale**

Mindset was measured using a variation of the construct developed by Dweck (2006) which focused on ‘Theories of Intelligence.’ In this study, intelligence was replaced by athletic ability. As noted by Dweck (2006) delineating between ‘self’ and ‘other’ is an important aspect to understanding the measure. In regard to ‘self,’ participants are required to report their beliefs about their own ability, which is then used to predict a participant’s self-assessment, goals, and self-imposed helplessness versus mastery-orientated response (Dweck, 2000).

Participants were asked to respond to 13 statements and rate their level of agreement on a 5 point Likert scale. The level of agreement included 1 = “Strongly Disagree;” 2 = “Disagree;” 3 = “Neither Agree or Disagree;” 4 = “Agree;” and 5 = “Strongly Agree.” Each statement provides an indication of the participant’s disposition toward a mindset which is either fixed orientated (i.e., you have a certain amount of ability and can’t make improvements) or growth mindset orientated (i.e., regardless of your current level of ability, you can significantly change and improve it through hard work).

**Factor analysis for growth mindset.** An exploratory factor analysis with a varimax rotation was conducted to determine which questions align to create the construct growth mindset. During factor analysis, items that were stated from a fixed mindset perspective were reverse coded to ensure that the final construct is measured from a growth mindset perspective, with higher values indicating more of a growth mindset. Through the method of exploratory factor analysis (EFA), 11 of the 13 statements loaded on two constructs identified as Growth mindset in Athletic Ability (7 items: eigenvalue = 4.45, variance explained = 34.25%) and Growth mindset in Athletic Behavior (4 items: eigenvalue = 2.03, variance explained = 15.63%). Kaiser’s measure of

sampling adequacy (KMO) for the construct as a whole was .808. Table 3.2 reports the alpha reliability value for each of the two constructs and the factor loadings.

Table 3.2

*Factor Analysis for Mindset Construct Survey Items*

Item	Factor Loadings
Growth mindset in athletic ability ( $\alpha = .834$ )	
You can change even your basic athletic ability level considerably.	.774
No matter how much ability you have, you can change it quite a bit.	.765
*To be honest, you cannot really change how much athletic ability you have	.691
*You have a certain amount of athletic ability, and you cannot really do much to change it.	.667
No matter who you are, you can significantly change your ability level	.616
*Your ability is something about you that you cannot change very much	.608
You can change your basic ability through hard work and effort.	.591
Growth mindset in athletic behavior ( $\alpha = .750$ )	
During practice/competition, I will persist until I have mastered the challenge being presented	.813
When I receive feedback during practice, I view it as an opportunity learn and develop my abilities.	.769
During practice/competition, I embrace the challenges presented	.764
When my peers are successful, it inspires me.	.478

(Adapted from Dweck, 2000, p. 178)

\*Items were reverse coded so higher scores indicate higher scores for growth mindset

### Personality Scale

Personality was measured using the Big Five Personality survey (Costa & McCrae, 1992; 2008; McCrae & Costa, 2003; McCrae & John, 1992). The survey is comprised of 44 questions that are designed to determine a participant's personality based on the following five dimensions: Openness, Conscientiousness, Extroversion, Agreeableness, and Neuroticism (or OCEAN) (Costa & McCrae, 1992; 2008; John, Naumann, & Soto, 2008, Ravi, 2016). The survey

responses was measured on a 5-point Likert Scale. Participants level of agreement was range from 1 = “Disagree Strongly;” 2 = “Disagree a little;” 3 = “Neither Agree or Disagree;” 4 = “Agree a little;” and 5 = “Agree Strongly.”

**Factor analysis for personality constructs.** Each construct from the Big 5 Personality Inventory was assessed separately through EFA. Extroversion (8 items: eigenvalue = 4.44, variance explained = 55.51%, KMO = .881), Agreeableness (9 items: eigenvalue = 3.51, variance explained = 39.01%, KMO = .799), Conscientiousness (9 items: eigenvalue = 3.50, variance explained = 38.91%, KMO = .846), Neuroticism (8 items: eigenvalue = 3.16, variance explained = 39.42%, KMO = .778), Openness (8 items: eigenvalue = 3.50, variance explained = 34.99%, KMO = .812). Table 3.3 reports the alpha reliability value for each of the five constructs and the factor loadings. Also noted in table 3.3, are the items that were reverse coded (\*) prior to factor analysis.

Table 3.3

*Factor Analysis for Personality Construct Survey Items*

Item	Factor Loadings
Extroversion ( $\alpha = .883$ )	
Tends to be quiet*	.853
Is talkative	.824
Is outgoing, sociable	.779
Is sometimes shy, inhibited*	.778
Is reserved*	.760
Generates a lot of enthusiasm	.712
Is full of energy	.632
Has an assertive personality	.580
Agreeableness ( $\alpha = .796$ )	
Is considerate and kind to almost everyone	.714
Has a forgiving nature	.648
Is sometimes rude to others*	.633
Likes to cooperate with others	.624
Starts quarrels with others*	.623
Is helpful and unselfish with others	.618



Table 3.3 (Continued)

*Factor Analysis for Personality Construct Survey Items*

Item	Factor Loadings
Can be cold an aloof*	.609
Is generally trusting	.584
Tends to find fault with others*	.556
Conscientiousness ( $\alpha = .786$ )	
Tends to be lazy*	.730
Does a thorough job	.727
Is a reliable worker	.679
Can be somewhat careless*	.634
Does things efficiently	.610
Perseveres until the task is finished	.608
Tends to be disorganized*	.547
Is easily distracted*	.535
Makes plans and follows through with them	.501
Neuroticism ( $\alpha = .778$ )	
Worries a lot	.766
Is relaxed, handles stress well*	.691
Gets nervous easily	.681
Is emotionally stable, not easily upset*	.660
Is depressed blue	.617
Can be moody	.554
Can be tense	.503
Remains calm in tense situations*	.498
Openness ( $\alpha = .796$ )	
Has an active imagination	.752
Is original, comes up with new ideas	.711
Is inventive	.684
Values artistic, aesthetic experiences	.647
Likes to reflect, play with ideas	.644
Is curious about different things	.640
Is ingenious, a deep thinker	.586
Is sophisticated in art, music, or literature	.535

(Adapted from John &amp; Srivastava, 1999)

\*Denotes reverse-scored items

**Dependent Variables**

This study employed four dependent variables (a) openness to a sports psychology consultant renamed lack of openness to sports psychology (see explanation below), (b)

confidence in sports psychology consultation, (c) stigma toward sport psychology consultants, and (d) cultural preference and hypothesizes that participant's attitudes (as defined by the three variables) toward sport psychology consultants can, in part be predicted by each independent variable. In this study, athletes' attitudes were operationalized by measuring participant's openness, confidence, stigma toward, and cultural preference. Exploratory factor analyses were used to confirm that the items align on each of the predetermined constructs.

### **Attitude: Lack of Openness to Consultants**

Originally, six items from the Sport Psychology Attitudes-Revised (SPA-R) (Martin et al., 2002) survey instrument were hypothesized to load on a single construct to create the factored variable of openness to a sports psychology consultant. Results of the exploratory factor analysis revealed two constructs instead of one and it was determined after review of the items loading on each construct that neither represented a good match to measure openness to a consultant. The researcher then determined to use a single item measured on an ordinal scale (1 = strongly agree to 7 = strongly disagree) to represent an athlete's openness to a sports psychology consultant. The item, stated from the point of view that indicated lack of openness rather than being open, was "Athletes with a strong character overcome conflicts by themselves." Thus, the variable was renamed to "lack of openness."

### **Attitude: Confidence in Consultants**

The variable confidence in consultant was developed through an EFA. Participants were asked to rate their level of agreement with each statement based on a 7-point Likert scale: 1 = "Strongly Disagree;" 2 = "Disagree;" 3 = "Moderately Disagree;" 4 = "Neutral;" 5 = "Moderately Agree;" 6 = "Agree;" and 7 = "Strongly Agree." Eight survey items from the Sport Psychology Attitudes -Revised (SPA-R) (Martin et al., 2002) survey loaded to create the

construct with an eigenvalue = 5.22, variance explained = 65.22%, and KMO = .902. Table 3.4 reports the alpha reliability value and the factor loadings for the construct. Higher scores indicate more confidence in sports psychology consultants.

Table 3.4

*Factor Analysis for Attitudes: Confidence Construct Survey Items*

Item	Factor Loadings
Confidence ( $\alpha = .921$ )	
An SPC could help me fine-tune my sports performance.	.873
I would like the help of a SPC to better understand myself.	.865
A SPC would help me perform better under pressure.	.840
I would get help from a SPC if I was upset about my sport performance.	.831
I would feel most secure in receiving help from a SPC.	.820
An SPC can help improve mental toughness	.810
I have felt lost and would have welcomed professional advice.	.718
If teammate asked my advice, I might recommend a SPC.	.684

(Adapted from Martin et al., (2002)

**Attitude: Stigma toward Consultants**

The variable stigma toward consultants was developed through an EFA. Participants were asked to rate their level of agreement with each statement based on a 7-point Likert scale: 1 = “Strongly Disagree;” 2 = “Disagree;” 3 = “Moderately Disagree;” 4 = “Neutral;” 5 = “Moderately Agree;” 6 = “Agree;” and 7 = “Strongly Agree.” Four survey items from the Sport Psychology Attitudes -Revised (SPA-R) (Martin et al., 2002) survey loaded to create the construct with an eigenvalue = 4.42, variance explained = 63.20%, and KMO = .831. Table 3.5 reports the alpha reliability value and the factor loadings for the construct. Higher scores indicate more stigma toward sports psychology consultants.

Table 3.5

*Factor Analysis for Attitudes: Stigma toward*

Item	Factor Loadings
Stigma Toward ( $\alpha = .896$ )	
If I went to a sport psychology consultant, I would not want my coach to know about it.	.899
If I went to a sport psychology consultant, I would not want other athletes to know about it.	.846
I would not want someone to know about me receiving help from a sport psychology consultant.	.825
The coach would think less of me if I went to a sport psychology consultant.	.723

(Adapted from Martin et al., (2002)

**Attitude: Cultural Preference toward Consultants**

The variable cultural preference toward consultants was developed through and EFA. Participants were asked to rate their level of agreement with each statement based on a 7-point Likert scale: 1 = “Strongly Disagree;” 2 = “Disagree;” 3 = “Moderately Disagree;” 4 = “Neutral;” 5 = “Moderately Agree;” 6 = “Agree;” and 7 = “Strongly Agree.” Four survey items from the Sport Psychology Attitudes -Revised (SPA-R) (Martin et al., 2002) survey loaded to create the construct with an eigenvalue = 1.72, variance explained = 43.09%, and KMO = .638. Table 3.6 reports the alpha reliability value and the factor loadings for the construct. Higher scores indicate more cultural preference toward a sports psychology consultant.

Table 3.6

*Factor Analysis for Attitudes: Cultural Preference*

Item	Factor Loadings
Cultural Preference ( $\alpha = .551$ )	
I respect the opinions of people of my own culture more so than those of people of another culture.	.721
I would be more comfortable with a sport psychology consultant if he/she were the same ethnicity, culture, or race as me.	.704
The athletes that I associate most with are of the same race and ethnicity as me.	.686
There are great differences between people of different ethnic backgrounds.	.488

(Adapted from Martin et al., (2002)

### Summary of Independent and Dependent Variables

Table 3.7 provides an overview of the independent and dependent variables and how each variable was measured.

Table 3.7

#### *Measurement of Variables*

Variable	Type	Measurement
Year of School	IV	Ordinal
Ethnicity (1 = White)	IV	Nominal
Gender (1 = Female)	IV	Nominal
GPA	IV	Ordinal
Major	IV	Nominal
Type of Sport	IV	Nominal
Division of Competition	IV	Nominal
Access to SPC	IV	Continuous
Satisfaction with SPC	IV	Ordinal
Mindset	IV	Construct Variable
Personality – Openness	IV	Construct Variable
Personality – Conscientiousness	IV	Construct Variable
Personality – Extroversion	IV	Construct Variable
Personality – Agreeableness	IV	Construct Variable
Personality - Neuroticism	IV	Construct Variable
Lack of openness toward SPC	DV	Ordinal
Confidence in SPC	DV	Construct Variable
Stigma toward SPC	DV	Construct Variable
Cultural preference toward SPC	DV	Construct Variable

### Data Analysis Procedure

Data was examined using descriptive and inferential analyses in order to answer the identified research questions.

#### **Descriptive Statistical Analysis**

According to Tabachnick & Fidell (2007; 2014) descriptive statistics are used to describe the sample of subjects in terms of variables. The data in this study was examined using SPSS v. 22 software with the means, standard deviations, and frequencies for the independent and dependent variables identified in Table 3.7. Descriptive statistics were used to answer question

one – what are the background characteristics of student-athletes who participated in this study? Demographic information included age, gender, education, ethnicity, GPA, Major, Type of sport, division of competition. Statistics were provided in a table representing all variables. Additionally, descriptive (i.e., means, standard deviation, skew and kurtosis) were analyzed to assess data normality and to determine the extent to which the data collected meets the assumptions of normality required for inferential statistical analysis for this study.

Inferential statistical analysis were include independent samples *t*-tests and five one-way ANOVAs in order to answer questions two and three. Additionally, correlations were used to answer questions four through seven, and hierarchical regression were used to answer question eight.

### **Independent Samples *t*-test**

Four independent samples *t*-tests were conducted to determine the difference in athlete's attitudes (i.e., Confidence, Stigma toward, and Culture Preference) toward sport psychology consultants based on gender. Specifically,

1. To what extent is there a statistically significant difference in participants' scores for a) lack of openness to sports psychology consultants, b) confidence toward sport psychology consultants, c) stigma toward sports psychology consultants, and d) cultural preference toward sports psychology consultants based on gender?

### **One-way analysis of variance (ANOVA)**

One-way ANOVA analyses were conducted to test for differences in the four dependent variables (i.e., attitudes toward sport psychology consultants) based on the grouping variables of ethnicity and year of school.

## Correlations

Pearson product-moment correlations, often referred to as Pearson  $r$ , were run to answer research question 3. The focus of the Pearson product-moment correlations is to measure the strength of a linear association (correlation) between two quantitative variables (Johnson & Christensen, 2017; Martin & Bridgmon, 2012; Vogt & Johnson, 2012; 2016). Furthermore, it is important to note that data were screened to ensure assumptions of normality were met (Martin & Bridgmon, 2012; Morgan, Leech, Glecker, & Barrett, 2013). The first assumption is that variables are bivariate normally distributed which ensures that each independent variable is normally distributed at all levels. The second assumption suggests that the data be representative of a random sample from the population as well as be independent of all other variables (Tabachnick & Fidell, 2007).

According to Tabachnick & Fidell, (2007) it is critical to perform data screening and preparation in order to protect the integrity of the statistical tests being conducted. This is essential because it helps to ensure that “data is accurate, complete, and in compliance with the underlying assumptions of the statistics being used” (Martin & Bridgmon, 2012, p. 100). The Pearson  $r$  also calculates an effect size which is reported as a range between -1 and +1, represented in a correlation matrix, and “identifies the strength of the conclusions about group differences or the relationship among variables” (Creswell, 2014, p. 165). In order to control for a Type I error when conducting multiple correlations, a Bonferroni approach was used to determine statistical significance. A Bonferroni approach involves dividing the number of correlation by the commonly accepted alpha level of 0.5 to determine the new alpha level for statistical significance (Johnson & Christensen, 2014; Mertler & Vannatta, 2013). Correlations

were also run for all variables in the regression analyses to identify any instances of multicollinearity.

### **Hierarchical Multiple Regression**

A multiple regression model was used to address research question five to determine the influence of each independent variable on the dependent variable. According to Martin & Bridgmon (2012), “a multiple linear regression uses a multiple correlation to predict a dependent variable ( $Y$ ) from two or more independent variables ( $X$ 's)” (p. 66). In other words, a multiple regression analysis investigates the influence of each independent variables on the dependent variables. The ten independent variables in this study include personal factors (3), mindset (2), and personality (5). The dependent variables were the participant's attitudes toward sport psychology consultants. There were four regressions run, one for each of the dependent variables.

The benefit of using multiple regression techniques is that it helps to predict values for the dependent variable and as a result provides insight into whether the relationship between the independent and dependent variables is correlational or causal in nature (Johnson & Christensen, 2017). Multiple regression is deemed most appropriate for research question five because it helps the researcher to identify the order in which each independent variable is inputted into the equation and as a result helps to isolate the effect of independent variable (Tabachnick & Fidell, 2007). According to Vogt and Johnson (2011), the equation for multiple regression is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + \varepsilon$$

In this equation,  $Y$  refers to the predicted outcome of the dependent variable;  $\beta_0$  refers to the  $Y$ -intercept;  $\beta_1$  through  $\beta_k$  refers to the unstandardized regression coefficients for the  $k$  independent variables;  $X_1$  through  $X_k$  are the  $k$  independent variable (predictor); and  $\varepsilon$  refers to



the unit of random error (Johnson & Christensen, 2014). The value of  $\beta$  refers to the degree there is an adjustment to the dependent variable as “associated with an increase (or decrease) of one standard deviation unit in an independent variable - when controlling for the effects of other independent variables” (Vogt & Johnson, 2011, p. 27).

When designing any research study it is critical to establish an acceptable sample size in order to reduce sampling errors and increase the chances of gather results that are a true representation of the population values (Johnson & Christensen, 2017). There are a variety of formulas for calculating the required sample size for quantitative research. According to Fowler (2009), the most effective approach is to utilize tables found in reliable research text that have three key components. The researcher must first establish the margin of error that is to be accepted (i.e., +/- 5% confidence intervals) which provides an indication of how accurate the answer from the sample population is in relation to the population. The second objective is to establish the confidence level (i.e., Type I error risk) for the margin of error. The third consideration is to determine the percentage of the identified sample that will respond.

When conducting multiple regression analysis to determine the minimum sample size, various authors suggest the following equation (Tabachnick & Fidell, 2007; Vogt & Johnson, 2011).

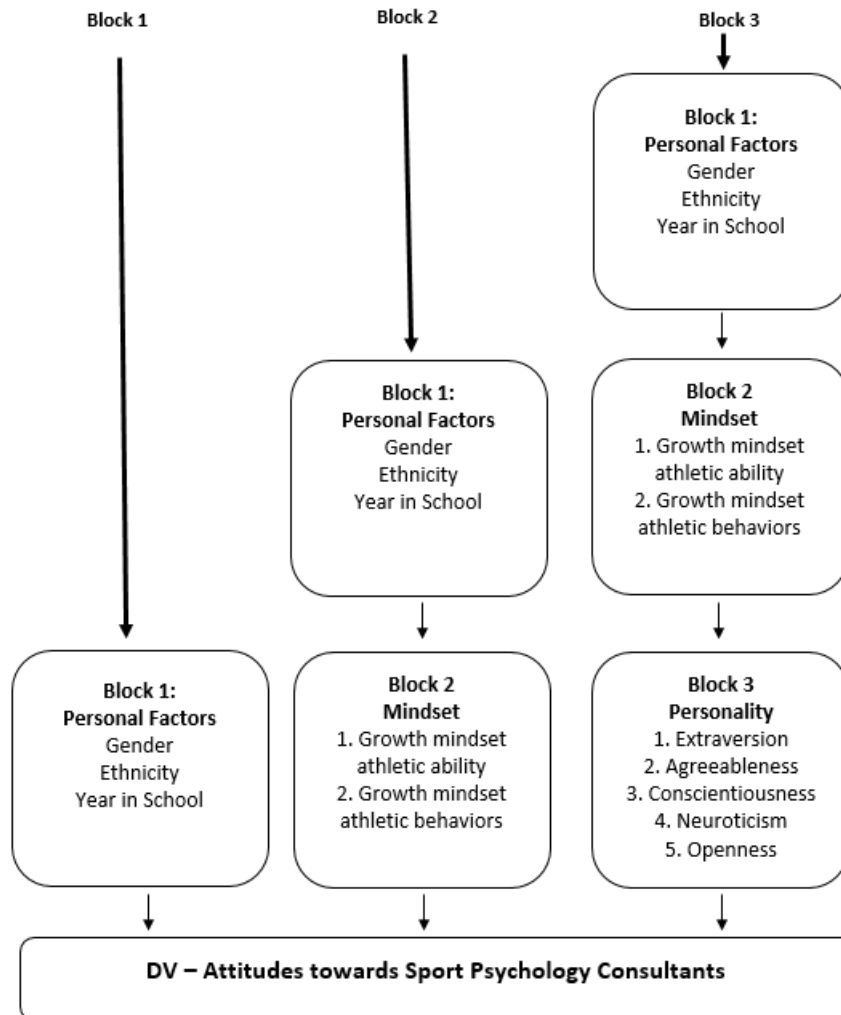
$$N = 8m + 50$$

Where,  $N$  = the minimum number of participants required for the analysis to be effective and  $m$  = refers to the number of independent variables in the regression equation. For this study, the number of independent variables is 10 and thus the minimum number of participants (i.e., sample size) for this study is 130.

**Hierarchical Regression Model Blocking.** The purpose of using multiple regression for research question five is to establish the extent to which factors such as personality and mindset influence student-athletes' attitudes toward sports psychology consultants. A sequential hierarchical approach was used for this regression with independent variables being entered in steps (blocks). According to Tabachnick and Fidell (2007) independent variables are assessed for what it adds to the prediction of the dependent variable and refers to the process of independent variables being entered into the equation in an order specified by the researcher. Once all blocks of variables are entered, the overall model is assessed in terms of its ability to predict the dependent variable.

The first block consisted of demographic characteristics. These characteristics include gender, ethnicity, and year of school. These variables are entered in the first block in order to account for external variables of differences outside of the control of the participant. The second block consisted of the two independent variables representing mindset. The purpose of entering this variable in block two is to determine the impact of mindset on attitudes toward sport psychology consultant after controlling for demographic characteristics.

The third block of the regression model focused on independent variables related to personality of student-athletes. Prior to analysis, Exploratory Factor Analysis was used to create five construct variables based on the Big Five model: a) Extroversion b) Agreeableness c) Conscientiousness d) Neuroticism e) Openness. These variables are entered into the block with the intent of determining the extent to which characteristics of personality influence attitudes toward sport psychology consultants. Figure 3.1 provides a visual representation of the regression model.



*Figure 3.1.* Visual model of hierarchical regression analyses for predicting attitudes toward sport psychology consultants.

### Delimitations

This study was delimited to individuals who currently participate in collegiate athletic programs located in the Midwest states in the United States. As such, future researchers who would like to utilize the same framework to assess students from other areas throughout the United States should not encounter any issues.

### **Limitations**

As is the case with all studies, there are some limitations to this study that require acknowledgement. First, though efforts were made to minimize and control for assumptions, with only one researcher involved in the process, from beginning to end, the findings reflect a single interpretation of the results and thus possible subjectivity. Second, given that the participants are derived from a specific student-athlete population within the Midwest the results have limited generalizability across other student-athlete populations. Therefore, there should be caution when inferring similar findings may emerge in other collegiate environments. While the athlete who participated met the required sample size requirements, they represent a limited portion of the collegiate athlete population in the United States. Third, it is also worth noting the limited diversity within the sample size with minority groups making up less than 9% of the student athlete population participating in this study. Fourth, the data collected are cross-sectional in nature (i.e., collected at a single point in time) and thus is limited from a longitudinal perspective. At different stages of the season (i.e., competition versus offseason) the data may yield different results. Finally, the data collected are self-reported and thus the results are based on the participant's ability to report accurately.

In spite of the aforementioned limitations, this study makes a valuable contribution to the sport psychology literature by examining factors that influence attitudes toward sport psychology consultants. Findings provide practical suggestions and strategies that consultants can integrate in order to enhance the athlete-consultation process.

### **Summary**

In this chapter, the methodological approach has been explained in depth. Understanding the factors that influence student-athletes' attitudes toward sport psychology consultants is a

complex process. The purpose of this study is to provide greater clarity on the influence of mindset and personality on student-athletes attitude toward sports psychology consultants and the services they provide. Results will inform and enhance future practice within the field of sport psychology consultants by closing some of the gaps in the sport psychology literature. This chapter provided a detailed outline of the research design for this study which includes a statement of the research questions, an explanation of the research design, methodological approach, setting, sample participants, instruments, and an examination of the variables and data analysis. Conclusively, this chapter included a detailed description of the limitations and delimitations of the study which will help provide opportunities for future research.

## CHAPTER 4

### RESULTS

The purpose of this study was to determine the extent to which an individual's personality and mindset influence attitudes toward sports psychology consultants in collegiate level student-athletes. This study was informed by a conceptual framework that included the concepts of mindset (Dweck, 2006) and the Five-Factor personality framework (Costa & McCrae, 1992; McCrae & Costa, 2003; 2008). The mindset framework refers to individuals' implicit beliefs about their abilities (e.g., intelligence, academic ability, athletic abilities etc.) and proposes that individuals adopt a mindset that their abilities are either fixed or malleable (Dweck, 2006). The Five-Factor model, also referred to as the Big Five, is a commonly accepted construct describing personality across five dimensions (Extroversion [E], Agreeableness [A], Conscientiousness [C], Neuroticism [N], and Openness [O]) (Ravi, 2016, p.37). This study hypothesized that demographic variables, mindset, and personality, independently and/or collectively, influence an individual's attitude toward sport psychology consultants.

The focus of this chapter is to provide results from data analyses that address each of the five research questions identified in Chapter One. This chapter is divided into six sections. The first section describes the process of data screening as well as the methods used to confirm assumptions of normality. Section Two reports the descriptive statistics for each variable used in the study. Section three reports the independent samples t-test analysis as well as the one-way ANOVAs which were used to answer part of research question two. Section four reports the results of the correlation analyses between each independent and dependent variable which was used to answer research questions three and four as well as assess for multicollinearity. Section

five reports the results of the hierarchical multiple regression analysis used to answer Research Question Five. Section six details a summary answer to each of the five research questions.

### **Data Screening and Assumptions of Normality**

Prior to conducting descriptive or inferential statistics analysis, data were screened for missing values. Cases for which there was a missing response for any survey question was removed from the data set. The data screening process revealed that of the 293 original cases, 73 had a missing response to at least one question and as a result were removed from the data set. Therefore, the final overall sample data set was comprised of 220 cases. Further screening was conducted for these 220 cases to determine whether they met assumptions of normality. As noted by Tabachnick & Fidell (2012), normally distributed data is a prerequisite to conduct many inferential statistics such as independent samples *t*-tests, one-way ANOVAs, and multiple regressions (Tabachnick & Fidell, 2012).

Normally distributed data is assumed when “the dependent variable values are deemed to be normally distributed in relation to each level of the independent variable”(Vogt & Johnson, 2011, p. 257) and is often assessed by examining two components of normality referred to as skewness and kurtosis. Skewness refers to “the degree to which measures or scores are bunched on one side of central tendency and trail out” (Vogt & Johnston, 2016, p. 413). Skewness refers to the manner in which data is distributed symmetrically, “when the skewness of a group of values is zero, their distribution is symmetrical” (Vogt & Johnston, 2016, p. 411). Kurtosis refers “to the extent to which a distribution departs from the bell-shaped or normal curve by being either pointier (leptokurtosis) or flatter (platykurtosis)” (Vogt & Johnson, 2016, p. 221). Skewness and kurtosis can both be examined numerically and graphically. According to Hahs-Vaughn (2017) there is a cause for concern if the skewness value is larger than an absolute value

of 2.0 and the kurtosis statistic is beyond an absolute value of 7.0 as these would be considered not normal. With these parameters in mind, none of the variables demonstrated non-normality.

Table 4.1 displays results of the assessment of univariate normality for each variable measured on a continuous scale in this study.

Table 4.1

*Assessment of Normality for Scale Variables in the Regression Models (n = 220)*

Variables	Skew	SE of Skew	Kurtosis	SE of Kurtosis
Year in school	.606	.164	-.310	.327
Growth mindset athletic ability	-.339	.164	.115	.327
Growth mindset athletic behaviors	-.118	.164	-.012	.327
Big 5 - Agreeableness	-.081	.164	-.545	.327
Big 5 - Extroversion	.091	.164	-.602	.327
Big 5 - Conscientious	.115	.164	-.695	.327
Big 5 - Neuroticism	-.055	.164	-.032	.327
Big 5 - Openness	.058	.164	-.191	.327
*Attitudes – Lack of openness	-.788	.164	-.146	.327
*Attitudes - Confidence	-.350	.164	.033	.327
*Attitudes - Stigma toward	.523	.164	-.049	.327
*Attitudes - Cultural preferences	.214	.164	-.159	.327

\*Dependent Variables

### Frequencies and Descriptive Statistics

After assessing both univariate and multivariate normality, descriptive statistics were run for each variable. Statistics include the minimum, maximum, mean, and standard deviation of each variable. Table 4.2 reports results of the descriptive analysis.

Table 4.2

*Descriptive Statistics for Demographic, Independent, and Dependent Variables (n = 220)*

Variables	Min	Max	Mean	SD
Gender (1 = male)	0	1	.74	.442
Ethnicity (1 = white)	0	1	.85	.362
Year in school <sup>a</sup>	1	6	2.51	1.298
Growth mindset athletic ability <sup>b</sup>	14	35	25.90	4.529
Growth mindset athletic behaviors <sup>b</sup>	12	20	16.59	2.002
Big 5 - Agreeableness <sup>b</sup>	21	45	35.49	4.909



Table 4.2 (Continued)

*Descriptive Statistics for Demographic, Independent, and Dependent Variables (n = 220)*

Variables	Min	Max	Mean	SD
Big 5 - Extroversion <sup>b</sup>	12	40	27.42	6.558
Big 5 - Conscientious <sup>b</sup>	21	45	33.70	5.265
Big 5 - Neuroticism <sup>b</sup>	8	36	21.37	5.297
Big 5 - Openness <sup>b</sup>	18	40	28.98	4.972
*Attitude – Lack of openness <sup>c</sup>	1	7	4.90	1.385
*Attitudes – Confidence <sup>c</sup>	8	56	35.25	9.542
*Attitudes - Stigma toward <sup>c</sup>	4	27	11.37	5.191
*Attitudes - Cultural preferences <sup>c</sup>	4	28	13.17	4.293

<sup>a</sup>1 = Freshman; 2 = Sophomore; 3 = Junior; 4 = Senior; 5 = Fifth Year; 6 = Graduate

<sup>b</sup>1 = Strongly Disagree; 2 = Disagree; 3 = Neither Disagree or Agree; 4 = Agree; 5 = Strongly Agree

<sup>c</sup>1 = Strongly Disagree; 2 = Disagree; 3 = Moderately Disagree; 4 = Neutral; 5 = Moderately Agree; 6 = Agree; 7 = Strongly Agree;

### Independent Samples *t*-test

Independent samples *t*-test were conducted to determine the extent to which there was a difference in lack of openness, confidence, stigma toward, and cultural preference toward sport psychology consultants based on gender. The independent samples *t*-test for lack of openness was statistically significant  $t(88.01) = -6.044, p < .001$ . Levene's test for equality of variances was also significant thus *t*-test results were interpreted for equal variances not assumed. Male participants indicated a greater lack of openness ( $M = 5.23, SD = 1.21$ ) than female participants ( $M = 3.97, SD = 1.43$ ), effect size  $d = .99$ . The independent samples *t*-test for confidence toward sports psychology consultants was statistically significant  $t(218) = 3.068, p = .002$ , indicating that female participants ( $M = 38.48, SD = 8.646$ ) demonstrated higher levels of confidence toward sport psychology consultants than male participants ( $M = 34.09, SD = 9.606$ ), effect size  $d = .48 (p = .002)$ . Additionally, the independent samples *t*-test for stigma toward sports psychology consultants was statistically significant  $t(218) = -2.12, p = .035$  indicating that female participants ( $M = 10.14, SD = 5.421$ ) demonstrated less stigma toward sport psychology consultants than male participants ( $M = 11.81, SD = 5.051$ ), effect size  $d = .32 (p = .035)$ . The

independent samples *t*-test for cultural preference was not statistically significant  $t(218) = -1.061$ ,  $p = .290$ , indicating, there was no statistically significant difference in terms of cultural preference regarding gender. Table 3.3 reports results of all four independent samples *t*-tests.

Table 4.3

*Independent Samples t-tests – Summary of Results for Gender (n = 220)*

	Male			Female			<i>t</i>	<i>df</i>	<i>p</i>	Confidence Interval	
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>				Lower	Upper
Lack of Openness	162	5.23	1.21	58	3.97	1.21	-6.04	88.01	<.001*	-1.65	-.89
Confidence	162	34.09	9.61	58	38.48	8.65	3.07	218	.002*	1.57	7.22
Stigma Toward Cultural Preference	162	11.81	5.05	58	10.14	5.42	-2.12	218	.043*	-3.22	-.19
	162	13.35	4.30	58	12.66	4.27	1.06	218	.290	-1.99	.60

### One-way Analysis of Variance (ANOVA)

One-way ANOVA examines the same statistical comparison as a *t*-test, but is utilized when the independent variable has three or more options (Tabachnick & Fidell, 2012). Two one-way analysis of variance (ANOVA) analyses were conducted to determine to what extent there was a significant difference in each of the dependent variables for attitudes toward sport psychology consultants (i.e., lack of openness, confidence, stigma toward, and cultural preference) based on demographic variables.

### Ethnicity

A one-way analysis of variance was conducted to determine to what extent there was a difference in attitudes toward sport psychology consultant based on ethnicity. The independent variable included four categories: White, Hispanic or Latino, Black or African American, and Other. The dependent variables which determined attitudes toward sport psychology consultants

were lack of openness, confidence, stigma toward, and cultural preference scores. The one-way ANOVA for cultural preferences was significant,  $F(3, 216) = .3.882, p = .010$ .

Follow up tests were conducted to evaluate pairwise differences among the means between groups. Levene's test for equal variances was not statistically significant so equal variances were assumed and post hoc comparisons were conducted using Tukey's test. There was a significant difference in the means between Hispanic ( $M = 16.56, SD = 4.157$ ) and White ( $M = 12.77, SD = 4.075$ ), indicating that Hispanic student-athletes had higher levels of cultural preference than White student-athletes, effect size  $d = .92 (p = .045)$ . The one way ANOVAs for lack of openness  $F(4, 215) = .862, p = .487$ , confidence  $F(3, 216) = .123, p = .946$  and stigma toward  $F(3, 216) = .213, p = .887$  were not statistically significant.

### **Year in School**

A one-way analysis of variance was conducted to determine to what extent there was a difference in attitude toward sport psychology consultant and year in school. The independent variable included six categories: Freshman, Sophomore, Junior, Senior, Fifth Year, and Graduate. The dependent variables which determined attitudes toward sport psychology consultants were lack of openness, confidence, stigma toward, and cultural preference scores. The one-way ANOVAs were not significant for Lack of Openness  $F(5, 214) = 1.228, p = .297$ , Confidence  $F(5, 214) = 2.045, p = .074$ , Stigma Toward  $F(5, 214) = .767, p = .574$  or Cultural Preference  $F(5, 214) = 1.040, p = .395$ . Post hoc tests were not performed since the ANOVAs were not statistically significant.

### **Correlations**

Pearson correlation coefficients were calculated among each of the variables including gender, ethnicity, year in school, growth mindset toward athletic ability, growth mindset toward

athletic behaviors, agreeableness, extroversion, conscientiousness, neuroticism, openness, confidence, stigma toward, and cultural preference resulting in 91 correlation coefficients represented in table 4.4. In order to control for Type I error for incorrect assumptions, when conducting multiple correlations, a Bonferroni approach was used to determine statistical significance. The Bonferroni approach involves dividing a commonly accepted alpha level (.05) by the number of correlations (.05/91), which results in a new alpha level of .00055. In this study, correlations required a  $p$  value of below .00054 or lower to be considered significant (Johnson & Christensen, 2014; Mertler & Vannatta, 2013). Of the 91 correlations, 20 were considered statistically significant using the revised significant level (.00054) and are noted with an asterisk (\*) in Table 4.4.

According to Patten (2014), correlations can range from values of -1.0 to +1.0 with the sign of the value noting the direction of the relationship. Values of around .1 or less are considered weak correlations, values of .3 considered moderate correlations, and values of approximately .5 or higher are considered strong correlations. With this guideline in mind, of the 20 statistically significant correlations, 11 of the correlations were considered weak and 9 were considered moderate. A positive correlation indicates that when one variable increases, the other generally increases as well. Conversely, a negative correlation indicates that as one variable increases, the other generally decreases (Hahs-Vaughn, 2017). Table 4.4 reports the bivariate correlations of the variables in this study and is followed by an overview of each statistically significant correlation.

Table 4.4

*Correlation Matrix - Independent and Dependent Variables (n = 220)*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Gender (1 = Female) --													
2 Ethnicity	-.11	--											
3 Year in school	-.06	-.03	--										
4 Growth mindset athletic ability	.01	.03	-.14	--									
5 Growth mindset athletic behaviors	-.10	.14	-.02	.34*	--								
6 Agreeableness	-.09	-.02	-.02	.28*	.44*	--							
7 Extroversion	-.04	.01	.07	.01	.20	.23	--						
8 Conscientious	-.15	.16	.06	.16	.39*	.31*	.10	--					
9 Neuroticism	-.24*	-.06	-.10	-.08	-.20	-.31*	-.27*	-.24*	--				
10 Openness	.08	-.12	-.04	.19	.28*	.30*	.27*	.18	-.06	--			
11 Attitudes – Lack of openness	.41*	.03	.02	.06	.03	.01	-.09	.02	-.17	.13	--		
12 Attitudes - Confidence	-.20	-.01	-.14	.25*	.15	.10	.01	.08	.37*	.15	-.19	--	
13 *Attitudes - Stigma toward	.14	-.01	-.05	-.20	-.33*	-.28*	-.27*	-.26*	.20	-.13	.11	-.04	--
14 *Attitudes - Cultural preferences	.07	-.22	.06	-.23	-.14	-.26*	-.03	-.01	.09	-.01	-.01	.00	.21

Note: \* $p < .00054$  Bonferroni adjustment for multiple correlations

### Moderate Correlations

There were nine statistically significant correlations considered moderate based on the interpretation of the correlation coefficient as recommend by Patten (2014). The variable growth mindset belief athletic behavior was positively correlated with growth mindset of athletic ability ( $r = .34, p < .00055$ ), indicating that participants with higher scores for growth mindset athletic

behaviors had higher growth mindset belief toward athletic ability. The variable agreeableness was positively correlated with growth mindset belief athletic behavior ( $r = .44, p < .00055$ ), indicating that participants with higher scores for agreeableness had higher scores for growth mindset athletic behaviors. The variable conscientiousness was positively correlated with growth mindset belief athletic behavior ( $r = .39, p < .00055$ ), indicating that participants with higher scores for conscientiousness had higher scores for growth mindset athletic behaviors.

The variable lack of openness was positively correlated with gender ( $r = .41, p < .00055$ ), indicating that male participants were less open to sport psychology consultants. The variable stigma toward was negatively correlated with growth mindset belief athletic behavior ( $r = -.33, p < .00055$ ), indicating that participants with higher scores for stigma toward sports psychology consultants had lower scores for growth mindset athletic behaviors. The variable confidence was positively correlated with neuroticism ( $r = .37, p < .00055$ ), indicating that participants with higher scores for confidence had higher scores for neuroticism. The variable conscientiousness was positively correlated with agreeableness ( $r = .31, p < .00055$ ), indicating that participants with higher scores for conscientiousness had higher scores for agreeableness. The variable neuroticism was positively correlated with agreeableness ( $r = .31, p < .00055$ ), indicating that participants with higher scores for neuroticism had higher scores for agreeableness. The variable agreeableness was positively correlated with openness ( $r = .30, p < .00055$ ), indicating that participants with higher scores for agreeableness had higher scores for openness.

### **Weak Correlations**

There were 11 statistically significant correlations considered weak based on the interpretation of the correlation coefficient as recommend by Patten (2014). The variable gender was negatively correlated with neuroticism ( $r = -.24, p < .00055$ ), indicating that females had

lower neuroticism scores than males. The variable agreeableness was positively correlated with growth mindset of athletic ability ( $r = .28, p < .00055$ ), indicating that participants with higher scores for agreeableness had higher growth mindset belief toward athletic ability. The variable confidence was positively correlated with growth mindset of athletic ability ( $r = .25, p < .00055$ ), indicating that participants with higher confidence scores had higher growth mindset belief toward athletic ability. The variable openness was positively correlated with growth mindset of athletic behaviors ( $r = .28, p < .00055$ ), indicating that participants with higher scores for openness had higher growth mindset belief toward athletic behaviors ability. Additionally, the variable openness was positively correlated with agreeableness ( $r = .30, p < .00055$ ), indicating that participants with higher scores for openness had higher agreeableness scores. The variable stigma toward was negatively correlated with agreeableness ( $r = -.28, p < .00055$ ), indicating that participants with higher scores for agreeableness had lower scores for stigma toward. The variable neuroticism was negatively correlated with extroversion ( $r = -.27, p < .00055$ ), indicating that participants with higher scores for neuroticism had lower scores for extroversion. The variable openness was positively correlated with extroversion ( $r = .27, p < .00055$ ), indicating that participants with higher scores for openness had higher scores for extroversion. The variable stigma toward was negatively correlated with extroversion ( $r = -.27, p < .00055$ ), indicating that participants with higher scores for stigma had lower scores for extroversion.

### **Multicollinearity**

The correlation matrix revealed no instances of multicollinearity so all variables proposed to be included in the hierarchical regression analysis were included in the hierarchical regression analysis.

### Hierarchical Multiple Regression Analyses

A hierarchical multiple regression model was used to determine the influence of each independent variable on the dependent variables. According to Martin & Bridgmon (2012), “a multiple linear regression uses a multiple correlation to predict a dependent variable ( $Y$ ) from two or more independent variables ( $X$ 's)” (p. 66). Four regressions were conducted; block one contained personal factors, block two contained the variables for each subcategory of mindset, and block 3 contained the five personality characteristics variables. The following sections report the results for each of the four regressions run.

#### Lack of Openness to a Sports Psychology Consultant

A sequential hierarchical regression was conducted on the dependent variable lack of openness to a sports psychology consultant. Table 4.5 provides results of each block, specifically the unstandardized regression coefficients ( $b$ ), the standard error of the unstandardized coefficients ( $SE \beta$ ), the standardized regression coefficients ( $\beta$ ), and the variance explained ( $R^2$ ) for each model.

**Personal Factors (block 1).** Results for this regression analysis indicated that within the first block, gender ( $\beta = .416, p < .001$ ) was a statistically significant predictors for lack of openness  $F(3,216) = 14.947, p < .001$ , accounting for 17.2% ( $R^2 = .172$ ) of the variance in lack of openness to a sports psychology consultant.

**Mindset (block 2).** The variables for each subcategory of mindset were added to the sequential regression in block 2. With block 2 added to the model, results for the regression analysis indicated that only gender ( $\beta = .420, p < .001$ ) was a statistically significant predictor of lack of openness  $F(5,214) = 9.223, p < .001$ , accounting for 17.7% ( $R^2 = .177$ ) of the variance in lack of openness to a sports psychology consultant.



**Personality (block 3).** The personality variables were added in block 3 creating the full model. Results for the regression analysis indicated gender ( $\beta = .382, p < .001$ ) and extroversion ( $\beta = -.140, p < .001$ ) were a statistically significant predictor of lack of openness  $F(10,209) = 5.416, p < .001$ , accounting for 20.6% ( $R^2 = .206$ ) of the variance in lack of openness to a sports psychology consultant.

Table 4.5

*Hierarchical Regression Coefficients for Lack of Openness (n = 220), R<sup>2</sup> = .206*

	<i>b</i>	SE $\beta$	$\beta$
Personal Factors (block 1)			
Constant	3.563	.328	
Gender	1.306	.196	.416***
Ethnicity	.310	.238	.081
Year in school	.046	.066	.043
Mindset (block 2)			
Constant	2.673	.836	.
Gender	1.317	.197	.420***
Ethnicity	.282	.241	.074
Year in school	.053	.067	.050
Growth mindset toward athletic ability	.013	.020	.044
Growth mindset toward athletic behavior's	.033	.046	.047
Personality (block 3 – full model)			
Constant	3.439	1.277	
Gender	1.198	.213	.382***
Ethnicity	.306	.246	.080
Year in school	.049	.067	.046
Growth mindset toward athletic ability	.007	.021	.022
Growth mindset toward athletic behavior's	.012	.052	.018
Agreeableness	-.004	.021	-.015
Extroversion	-.030	.014	-.140*
Conscientiousness	.007	.019	.028
Neuroticism	-.025	.019	-.094
Openness	.036	.019	.130

Note:  $R^2 = .172$  for block 1;  $.177$  for block 2;  $.206$  for block 3 – full model

Note: \*\*\*\*  $p < .001$ , \*\*\*  $p = .001$ , \*\*  $p < .01$ , \*  $p < .05$

## Confidence in a Sports Psychology Consultant

A sequential hierarchical regression was conducted on the dependent variable confidence in a sports psychology consultant. Table 4.6 provides results of each block, specifically the unstandardized regression coefficients (b), the standard error of the unstandardized coefficients ( $SE \beta$ ), the standardized regression coefficients ( $\beta$ ), and the variance explained ( $R^2$ ) for each model.

**Personal Factors (block 1).** Results for this regression analysis indicated that within the first block, gender ( $\beta = -.218, p = .001$ ) and year in school ( $\beta = -.155, p = .019$ ) were statistically significant predictors for confidence  $F(3,216) = 5.148, p = .002$ , accounting for 6.7% ( $R^2 = .067$ ) of the variance in confidence.

**Mindset (block 2).** The variables for each subcategory of mindset were added to the sequential regression in block 2. With block 2 added to the model, results for the regression analysis indicated that gender ( $\beta = -.214, p = .001$ ) and growth mindset belief athletic ability ( $\beta = .214, p = .002$ ) were a statistically significant predictor of confidence  $F(5,214) = 6.001, p < .000$ , accounting for 12.5% ( $R^2 = .125$ ) of the variance in confidence.

**Personality (block 3).** The personality variables were added in block 3 creating the full model. Results for the regression analysis indicated growth mindset belief athletic ability ( $\beta = .210, p = .001$ ) and neuroticism ( $\beta = .444, p < .001$ ) were a statistically significant predictor of confidence  $F(10,209) = 8.100, p < .001$ , accounting for 27.9% ( $R^2 = .279$ ) of the variance in confidence.

Table 4.6

*Hierarchical Regression Coefficients for Confidence (n = 220), R<sup>2</sup> = .279*

	<i>b</i>	SE $\beta$	$\beta$
Personal Factors (block 1)			
Constant	45.518	2.406	
Gender	-4.700	1.432	-.218***
Ethnicity	-1.125	1.743	-.043
Year in school	-1.140	.484	-.155*
Mindset (block 2)			
Constant	25.861	5.941	.
Gender	-4.634	1.400.	-.214***
Ethnicity	-1.487	1.711	-.056
Year in school	-.914	.476	-.124
Growth mindset toward athletic ability	.460	.144	.218**
Growth mindset toward athletic behavior's	.267	.328	.056
Personality (block 3 – full model)			
Constant	-12.043	8.385	
Gender	-1.723	1.395	-.080
Ethnicity	-.402	1.613	-.015
Year in school	-.575	.442	-.078
Growth mindset toward athletic ability	.442	.135	.210***
Growth mindset toward athletic behavior's	.261	.344	.055
Agreeableness	.162	.139	.084
Extroversion	.111	.094	.076
Conscientiousness	.154	.122	.085
Neuroticism	.799	.125	.444****
Openness	.120	.127	.063

Note: R<sup>2</sup> = .067 for block 1; .125 for block 2; .279 for block 3 – full model

Note: \*\*\*\*  $p < .001$ , \*\*\*  $p = .001$ , \*\*  $p < .01$ , \*  $p < .05$

### Stigma toward a Sports Psychology Consultant

A sequential hierarchical regression was conducted on the dependent variable stigma.

Table 4.7 provides results of each block, specifically the unstandardized regression coefficients ( $\beta$ ), the standard error of the unstandardized coefficients (SE  $\beta$ ), the standardized regression coefficients ( $\beta$ ), and the variance explained ( $R^2$ ) for each model.

**Personal Factors (block 1).** Results for this regression analysis indicated that the first block for stigma toward was not statistically significant  $F(3,216) = 1.605, p = .189$ .

**Mindset (block 2).** The variables for each subcategory of mindset were added to the sequential regression in block 2. With block 2 added to the model, results for the regression analysis indicated that growth mindset athletic behavior ( $\beta = -.285, p < .001$ ) was a statistically significant predictor of stigma toward sports psychology consultants  $F(5,214) = 6.717, p < .001$ , accounting for 13.6% ( $R^2 = .136$ ) of the variance in stigma.

**Personality (block 3).** The personality variables were added in block 3 creating the full model. Results for the regression analysis indicated growth mindset belief athletic behavior ( $\beta = -.168, p = .027$ ) and extroversion ( $\beta = -.182, p = .008$ ) were a statistically significant predictor of stigma toward  $F(5,209) = 5.410, p < .001$ , accounting for 20.6% ( $R^2 = .206$ ) of the variance in stigma toward.

Table 4.7

*Hierarchical Regression Coefficients for Stigma (n = 220), R<sup>2</sup> = .206*

	<i>b</i>	SE $\beta$	$\beta$
Personal Factors (block 1)			
Constant	10.507	1.340	
Gender	1.648	.7987	.140*
Ethnicity	.056	.971	.004
Year in school	-.159	.270	-.040
Mindset (block 2)			
Constant	26.149	3.211	
Gender	1.374	.757	.117
Ethnicity	.628	.925	.044
Year in school	-.251	.257	-.063
Growth mindset toward athletic ability	-.133	.078	-.116
Growth mindset toward athletic behavior's	-.739	.177	-.285***
Personality (block 3 – full model)			
Constant	27.929	4.789	
Gender	1.395	.797	.119

Table 4.7 (Continued)

*Hierarchical Regression Coefficients for Stigma (n = 220), R<sup>2</sup> = .206*

	<i>b</i>	SE $\beta$	$\beta$
Ethnicity	.804	.921	.056
Year in school	-.122	.252	-.031
Growth mindset toward athletic ability	-.127	.077	-.111
Growth mindset toward athletic behavior's	-.437	.196	-.168*
Agreeableness	-.075	.079	-.071
Extroversion	-.144	.054	-.182**
Conscientiousness	-.110	.70	-.112
Neuroticism	.087	.071	.088
Openness	.036	.073	.034

Note:  $R^2 = .022$  for block 1; .136 for block 2; .206 for block 3 – full modelNote: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ 

### Cultural Preference toward a Sports Psychology Consultant

A sequential hierarchical regression was conducted on the dependent variable cultural preference. Table 4.8 provides results of each block, specifically the unstandardized regression coefficients ( $\beta$ ), the standard error of the unstandardized coefficients (SE  $\beta$ ), the standardized regression coefficients ( $\beta$ ), and the variance explained ( $R^2$ ) for each model.

**Personal Factors (block 1).** Results for this regression analysis indicated that within the first block, ethnicity ( $\beta = -.208$ ,  $p = .002$ ) was a statistically significant predictor for cultural preference  $F(3,216) = 3.937$ ,  $p = .009$ , accounting for 5.2 % ( $R^2 = .052$ ) of the variance in cultural preference.

**Mindset (block 2).** The variables for each subcategory of mindset were added to the sequential regression in block 2. With block 2 added to the model, results for this regression analysis indicated that within the second block, ethnicity ( $\beta = -.196$ ,  $p = .003$ ) and growth mindset athletic ability ( $\beta = -.208$ ,  $p = .003$ ) were statistically significant predictor for cultural preference  $F(2,214) = 4.840$ ,  $p < .001$ , accounting for 10.2 % ( $R^2 = .102$ ) of the variance in cultural preference.

**Personality (block 3).** The personality variables were added in block 3 creating the full model. Results for this regression analysis indicated that within the third block, ethnicity ( $\beta = -.221, p = .001$ ), growth mindset athletic ability ( $\beta = -.177, p = .011$ ), and agreeableness ( $\beta = -.249, p = .001$ ) were statistically significant predictor for cultural preference  $F(5,209) = 3.946, p < .001$ , accounting for 15.9 % ( $R^2 = .159$ ) of the variance in cultural preference.

Table 4.8

*Hierarchical Regression Coefficients for Cultural Preference (n = 220), R<sup>2</sup> = .159*

	<i>b</i>	SE $\beta$	$\beta$
Personal Factors (block 1)			
Constant	14.403	1.091	
Gender	.501	.650	.052
Ethnicity	-2.462	.791	-.208**
Year in school	.190	.220	.058
Mindset (block 2)			
Constant	21.108	2.708	
Gender	.484	.638	.050
Ethnicity	-2.326	.780	-.196**
Year in school	.095	.217	.029
Growth mindset toward athletic ability	-.197	.066	-.208**
Growth mindset toward athletic behavior's	-.088	.150	-.041
Personality (block 3 – full model)			
Constant	20.954	4.076	
Gender	.556	.678	.057
Ethnicity	-2.614	.784	-.221**
Year in school	.085	.215	.026
Growth mindset toward athletic ability	-.168	.066	-.177*
Growth mindset toward athletic behavior's	0.10	.167	.005
Agreeableness	-.218	.067	-.249**
Extroversion	.013	.46	.020
Conscientiousness	.109	.059	.134
Neuroticism	.035	.061	.044
Openness	.033	.062	.038

Note:  $R^2 = .052$  for block 1;  $.102$  for block 2;  $.159$  for block 3 – full model

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

## Summary Answers to Research Questions

This section summarizes answers to the research questions in this study using results of the statistical analyses presented in this chapter.

### Research Question 1

*What are the demographics of the participant?*

The sample consisted of 220 participants, with the majority of the participants identified as male (74%). From an ethnicity perspective, the majority of the participants identified as White (84.5%), followed by Black/African American (8.6%), Hispanic (4.1%) and other (2.7%). The highest percentage of participants regarding year in school was sophomores (29.1%), followed by freshman (26.8%), senior (20%), junior (18.6%), fifth year (2.7%), and graduate (2.7%). The highest percentage of participants in terms of major was business (45.5%), followed by other (25.9%), health science (17.3%), education (5%), psychology (3.6%), and journalism (2.7%). The cumulative grade point average for participants ranged from A to F with the highest percentage of participants reporting B (44.1%), followed by A (43.2%), C (12.3%), and F (0.5%).

### Research Question 2

*To what extent is there a statistically significant difference in athletes' attitudes (i.e., Lack of Openness, Confidence in, Stigma Toward, and Culture Preference) toward sport psychology consultants based on: a) gender b) ethnicity and c) year of school?*

**Gender.** Independent samples *t*-tests identified statistically significant different attitudes toward sport psychology consultants based on gender with female participants demonstrating higher openness and confidence scores toward sport psychology consultants than male participants. Additionally, the independent samples *t*-test identified a statistically significant

difference in stigma based on gender with male participants demonstrating higher stigma scores.

**Ethnicity.** Results of a one-way ANOVA did identify a statistically significant difference in attitudes toward sport psychology consultants between different ethnicities. Participants who reported as Hispanic demonstrated the highest mean scores for cultural preferences when compared to participants who identified as White.

**Year in School.** The four one-way ANOVAs were not statistically significant when looking for difference in attitudes toward sport psychology consultants based on year in school.

### Research Question 3

*To what extent is there a statistically significant relationship between student athletes' mindsets and attitudes toward sports psychology consultants; specifically, a) Lack of Openness, b) Confidence in sports psychology consultants, c) Stigma toward sport psychology consultant, d) Cultural preference toward sport psychology consultant?*

**Growth Mindset athletic ability.** There was only one statistically significant correlation between growth mindset athletic ability and one of the four variables related to attitudes toward sports psychology consultants. The relationship between growth mindset athletic ability and confidence in a sports psychology consultant revealed a positive relationship. Athletes who reported higher scores in a growth mindset athletic ability reported higher scores in confidence toward a sports psychology consultant.

**Growth Mindset athletic behavior.** There was only one statistically significant correlation between growth mindset athletic behavior and one of the four variables related to attitudes toward sports psychology consultants. The relationship between growth mindset athletic behavior and stigma toward a sports psychology consultant revealed a negative relationship.



Athletes who reported higher scores in a growth mindset athletic behavior reported lower scores in stigma toward a sports psychology consultant.

#### **Research Question 4**

*To what extent is there a statistically significant relationship between student athletes' attitudes (i.e., Lack of Openness, Confidence in, Stigma Toward, and Culture Preference) toward sport psychology consultants and personality including the following constructs a) Extroversion, b) Agreeableness, c) Conscientiousness, d) Neuroticism, and e) Openness?*

**Agreeableness.** A Pearson product correlation identified a weak negative statistically significant relationship between agreeableness and stigma toward and cultural preference. Higher scores for agreeableness indicate lower scores for stigma and cultural preference.

**Extroversion.** A Pearson product correlation identified a weak negative statistically significant relationship between extroversion and stigma. Higher scores for extroversion indicate lower scores for stigma.

**Conscientiousness.** A Pearson product correlation identified a weak negative statistically significant relationship between conscientiousness and stigma. Higher scores for conscientiousness indicate lower scores for stigma.

**Neuroticism.** A Pearson product correlation identified a moderate positive statistically significant relationship between neuroticism and confidence. Higher scores for neuroticism indicate higher scores for confidence in a sport psychology consultant.

**Openness.** There were no statistically significant relationships between openness and attitudes toward sports psychology consultants.

#### **Research Question 5**

*To what extent do gender, ethnicity, year in school, growth mindset athletic ability and*

*growth mindset athletic behaviors, and personality (i.e., Extroversion, Agreeableness, Conscientiousness, Neuroticism, Openness) predict attitudes toward sport psychology consultant (i.e., a) Lack of Openness, b) Confidence in sport psychology consultants, and c) Stigma toward sport psychology consultants, d) Cultural preference toward sport psychology consultants)?*

Table 4.9 provides a summary of the statistically significant predictors for each of the dependent variables based on the full model for each regression.

Table 4.9

*Summary of Statistically Significant Predictors for Each of the Dependent Variables Based on the Full Model for Each Regression*

	Lack of Openness	Confidence In	Stigma Toward	Cultural Preference
Gender	Positive Predictor (Males)			
Ethnicity				Negative Predictor (Non-White)
Year in school				
Growth mindset toward athletic ability		Positive Predictor		Negative Predictor
Growth mindset toward athletic behavior			Negative Predictor	
Agreeableness				Negative Predictor
Extroversion	Negative Predictor		Negative Predictor	
Conscientiousness				
Neuroticism		Positive Predictor		
Openness				

**Lack of openness to sports psychology consultants.** Results from the hierarchical regression analysis revealed that gender and extroversion were statistically significant predictors. Males indicated higher scores in their lack of openness to sports psychology consultants and those with higher scores on the extroversion scale indicated lower scores in lack of openness.

Stated from the positive perspective those who were more extroverted were more open to sports psychology consultants.

**Confidence in sports psychology consultants.** Results from the hierarchical regression analysis revealed that growth mindset athletic ability and neuroticism were statistically significant predictors for the dependent variable confidence in sports psychology consultants. Both were positive predictors indicating that those with higher scores in both areas indicated more confidence in sports psychology consultants.

**Stigma toward sports psychology consultants.** Results from the hierarchical regression analysis revealed the variable of growth mindset athletic behavior and extroversion were both negative predictors for stigma toward sports psychology consultants. Individuals who reported higher scores on both variables reported lower instances of stigma toward sports psychology consultants.

### Summary

This chapter provided results of the data analysis methods presented in chapter 3. The assumptions of normality for inferential statistics were met and descriptive statistics of each variable used in the study were provided. Utilizing the Bonferroni adjustment 21 of the 91 bivariate correlations were deemed statistically significant. Independent samples *t*-tests and one-way anovas were conducted to discern differences in attitudes toward sport psychology consultants based on personal factors, mindset, and personality. Results of each hierarchical regression analysis were presented. Chapter 5 presents a discussion of results as well as recommendations for future research.

## CHAPTER 5

### DISCUSSION, CONCLUSION, AND IMPLICATIONS

This chapter provides a detailed discussion of the results presented in chapter 4 and is informed by the theoretical framework as well as the pertinent literature outlined throughout this study. The chapter begins with a summary of the study and is followed by a discussion of the results as they relate to the conceptual framework outlined in chapter 1 and 2. Following this discussion, an outline of the implications for practitioners, recommendation for future research, and concluding thoughts are presented.

#### Summary of the Study

Chapter one details an overview of the research problem pertaining to attitudes toward sport psychology consultants and the various unexamined factors that influence this process. The purpose and significance of this study was introduced and an outline of the four research questions were presented. Additionally, the mindset, personality, and attitudes toward sport psychology consultants' conceptual frameworks were introduced. The chapter concluded with an outline of definitions of key terms.

Chapter two provided an examination of the various lines of literature pertaining to the study. A detailed historical review of sport psychology was presented as well as critical review of the literature, past and present, relating to sport psychology, sport psychology consultants and their services, as well as the factors that influence attitudes toward sport psychology consultants was discussed. The goal of which was to draw attention to the areas already addressed by researchers as well as the gap that remains within the literature. This review was followed by a discussion of mindset with emphasis on how fixed and growth mindsets influence implicit beliefs in different domains. The final section focused on an examination of personality

literature, which provided a historical view of the topic and discussed the existing gaps with the literature when referring to the relationship between personality and attitudes toward sport psychology consultants.

Chapter three presented the methodology used in the study. The chapter begins with a description of the research design followed by the philosophical and methodological approach. A description of on the sample, setting, participants, sample size, survey instruments, and data collection procedures were provided. Each of the independent and dependent variables were discussed, including the results of the exploratory factor analyses conducted for the mindset and personality. Additionally, details on how data were analyzed to address each of the five research questions was discussed. Chapter 3 closed with an outline of delimitations and limitations of the study.

Chapter four provides an overview of the results of the data analyses. Pre-screening, assumptions of normality, frequencies, and descriptive statistics were presented along with the results from the independent *t*-tests and the one way ANOVAs were presented to address questions one through three. Results from bivariate correlations and hierarchical regression were presented to identify and describe relationships between variables and answer questions four and determine any instances of multicollinearity before answering research question five. Chapter four concluded with summary answers to each of the five research question. The following section provides a detailed discussions of the results as they relate to the research questions as well as pertinent research literature. Implications and future recommendations for the field of sport psychology consultant are presented.

## **Discussion of the Results**

The rapid increase in student-athlete participation rates at the collegiate level over the past decade (Irick, 2015) has coincided with a growing interest in the factors that influence student-athlete performance and wellbeing. The increased pressure to win and produce optimal performance at the collegiate level (Martin & Andersen, 2013; Wrisberg et al., 2009; Wrisberg et al., 2012), has prompted researchers to examine the psychological factors that influence athlete development and performance in a competitive setting. The need for this line of research is based on the recognition by athletes, coaches, administrators, and researchers that at the elite level the psychological preparation and skills of the athlete can be an influencing factor on performance (Cox, 2007; Ferraro & Rush, 2000; Moran & Toder, 2017; Porter, 2003; Vealey, 2005; 2007).

The benefits of psychological skills training on performance and performance-related outcomes are well-documented throughout the sport psychology literature (Fletcher & Hanon, 2001; Frey et al., 2003; Kuan & Kueh, 2015; Mamassis & Doganis, 2004; Miccogullari, 2016; Wilson, Schmidt, & Peper, 2006). The key to enhancing the psychological performance of athletes is through the systematic implementation of psychological skills training delivered by sport psychology consultants (Figone, 1999; Ferraro & Rush, 2000; Hanrahan, Grove, & Lockwood, 1990). The primary role of sport psychology consultants is to equip athletes with the psychological skills necessary to cope with the psychological demands of competition and thus achieve optimal performance (Blumenstein & Orbach, 2012; Freitas, Dias, & Fonseca, 2013; Hamberger & Iso-Ahola, 2006; Martin, Zakrajsek, & Wrisberg, 2012; Rothlin et al., 2016; Weinberg & Gould, 2015).

At the collegiate level, the significance of the role of sport psychology consultants is reiterated by recent reports which show that university presidents, athletic directors (Wrisberg et

al, 2012), and coaches (Grobbelaar; 2007; Wrisberg et al., 2010) see the services provides by sport psychology consultants as beneficial toward athlete preparation, development, and performance. While sport psychology consultants, as an integral part of support staff at the collegiate level, are relatively new additions (Bemiller & Wrisberg, 2011), interest and investment in their services continue to grow (Hayden et al., 2013; Kornspan & Duve, 2006; Voight & Callaghan, 2001; Zakrajsek et al., 2013; Zakrajsek et al., 2015; Wilson et al., 2009). As the access to, and provision of, sport psychology increases at the collegiate level (Wilson et al., 2009), it is critical for consultants to develop a clear understanding of how they are viewed by those that they serve because an athlete's attitude toward sport psychology consultants influences receptiveness to their services (Hays, 2012; Lavallee et al., 2005; Leffingwell et al., 2001; Martin et al., 2012; Fortin-Guichard et al., 2017). Additionally, research of this nature will allow consultants to specifically tailor their services to best meet the needs of each individual athlete, which in turn will enhance receptiveness to, and effectiveness of, their services (Hamberger & Iso-Ahola, 2006; Lavallee et al., 2005).

Despite advances in research, “relatively little is known about the receptivity of student-athletes and coaches to a role for a Sports Psychology Consultants...” (Wrisberg et al., 2010, p. 490) and thus there is a need for continued investigation in order to enhance sport psychology practice. Therefore, the purpose of this study was to address the gap identified by various researchers within the sport psychology literature by examining demographic (Martin et al., 2012), personality (Allen et al., 2013; Lavallee et al., 2005; Martin et al., 2004) and mindset (Dweck, 2006) to see if they are predictive factors of attitudes toward sports psychology consultants. Results indicate that of the two construct variables, as well as some of the demographic variables, were statistically significant predictors of attitudes toward sport

psychology consultants. In the following section, results related to each of the dependent variables are discussed.

### **Attitudes toward Sport Psychology Consultants**

The four dependent variables that make up attitudes toward sport psychology consultants were: a) lack of openness, b) confidence in, c) stigma toward, and d) cultural preference. The results produced a number of major findings.

**Lack of openness toward sports psychology consultants.** Lack of openness toward sport psychology consultant refers to an athlete's willingness and ability to discuss problems or concerns with a consultant. Results of this study indicate that gender was a positive predictive variable for lack of openness toward sport psychology consultants with male athletes demonstrating less of openness toward sport psychology consultants than female athletes. In other words, female athletes reported a more open attitude toward sport psychology consultants and the services they provide than male athletes. The results from this study support the findings from previous studies employing similar methods (i.e., SPA-R) examining the influence of gender on athletes' attitudes toward sport psychology consultants (Anderson et al., 2004; Hamberger & Iso-Ahola, 2006; Martin, 2005; Martin et al., 1997, 2002, 2004). Results are also consistent with other investigations of NCAA I student-athletes which indicate that gender is a predictive variable with males showing less openness than females (Maniar et al, 2001; Wrisberg, 2009), although, it is important to highlight that different methods were employed in these studies. However, it is worth noting that the results from this study are not consistent with findings from other studies which show gender to have no predictive value (Page et al., 2001).

As for possible reasons for gender differences, research shows that female athletes have lower levels of self-confidence (Mahoney, Raglin, & Pritchard, 2002; Thout, Kavouras, &



Kenefick, 1998), experience significantly more perceived failure in their performance (Hamberger & Iso-Ahola, 2006), and higher levels of competitive anxiety (Hamberger & Iso-Ahola, 2006; Thout, Kavouras, & Kenefick, 1998; Wilson et al., 2002) than males. With these factors in mind, it stands to reason female athletes may be more willing to engage in a dialogue with specialists such as consultants to seek support for performance-related concerns. This line of thinking is further supported by other studies, which show that female athletes competing at the elite level express a desire to have more socially supportive strategies for emotional support reasons (Campen & Roberts, 2001; Crocker & Graham, 1995). Given that the same studies indicate that males tend to experience these performance-related issues less than females it is not unexpected that males display less openness toward sport psychology consultants because their need for such psychological and emotional support may appear less necessary. This could be because some are content with their current performance, have a negative perception, or simply fail to recognize the potential advantages of sport psychology services (Leffingwell et al., 2001).

Another possible explanation for gender differences, specifically males' lack of openness, could pertain to male athletes' involvement in contact sport such as American football, which has a higher degree of masculinity socialization (i.e., 'machismo') (Martin, 2005; Martin et al., 2012). Some researchers suggest that in contact sports such as American football there is a high value placed on aggressive behavior and pain tolerance and that this mindset may discourage athletes from seeking assistance from support staff (e.g., psychology consultants) because it could be perceived as a sign of mental weakness by their peers or their coaches (Good & Wood, 1995; Green et al., 2012; Lopez & Levy, 2013; Martin 2005; Martin et al., 1997; Page, Martin, & Wayda, 2001; Wrsiberg et al., 2009; Steinfeldt, Steinfeldt, England, & Speight, 2009). The significance of these findings is that sport psychology consultants have a better understanding of

the personal factors that qualities such as gender have on an athletes' attitude. As such, consultants are better equipped and prepared to consult knowing the sensitivity of gender and its influence on an athlete's openness to sport psychology consultants.

It is worth noting that gender influence is not contained to openness toward sport psychology consultants as research has shown that female athletes also display higher levels of commitment to the consultation process than male athletes (Martin et al., 2001). Furthermore, from a coach's perspective, recent studies suggest that female coaches display a more positive attitude toward making sport psychology consultants' services available to their athletes (Wrisberg, et al., 2010; Zakrajsek & Zizzi, 2007). Prior to engaging in the consultation process, consultants need to remind themselves of gender sensitivity and tailor their programming to meet the specific needs of each gender.

***Extroversion and openness.*** Extroversion refers to the personality trait of an individual and his or her tendency toward being introverted or extroverted. Extroverts tend to be more outgoing, talkative, and display energetic behavior; whereas, introversion is manifested in more reserved and solitary behavior. Results of this study indicate that the personality trait of extroversion is a negative predictor for lack of openness or stated from the positive perspective a positive predictor of openness to sport psychology consultants. In other words, athletes who are more extroverted displayed higher levels of openness toward sport psychology consultants. This result is not unexpected as athletes high in extroversion tend to be more willing to engage with others and do not have challenges expressing themselves (Kahn et al., 2016) and thus it is not surprising athletes with this personality trait are more open to interacting with sport psychology consultants.

This result could be perceived as a positive personality trait, especially when competing in high level environments such as NCAA Division I sports where the psychological stress is high (Martin & Andersen, 2013; Wrisberg, Simpson, Lodberg, Withycombe, & Reed, 2009; Wrisberg, Withycombe, Simpson, Lodberg, & Reed, 2012). In light of the increased pressure placed on student-athletes, it is perhaps healthy to be willing to engage with others to express any concerns or performance-related issues. Failure to do so may result in athletes becoming more internally focused and, while internal processing is not necessarily a negative, one could argue that it is always beneficial to have an emotional and psychological support system and staff in place. This result may be even more crucial for female athletes as studies show female athletes appear to display lower levels of self-confidence (Mahoney, Raglin, & Pritchard, 2002; Thout, Kavouras, & Kenefick, 1998), experience significantly more failure in their performance (Hamberger & Iso-Ahola, 2006), higher levels of competitive anxiety (Hamberger & Iso-Ahola, 2006; Thout, Kavouras, & Kenefick, 1998; Wilson et al., 2002) and seek supportive strategies for emotional support reasons (Campen & Roberts, 2001; Crocker & Graham, 1995). These findings are all areas wherein sport psychology consultants can provide specialized support.

**Confidence in sports psychology consultants.** Confidence in sport psychology consultants refers to athletes' beliefs about the usefulness of mental skills training. Results of this study indicate growth mindset athletic ability and neuroticism are positive predictors of confidence in sport psychology consultants. From a growth mindset perspective of the 13 questions used in this study, informed by Dweck's (2000) mindset questionnaire, seven questions loaded into the construct of growth mindset athletic ability. The items included in the mindset constructs were asked on a Likert scale to what extent a participant agreed or disagreed with the following questions:

### Growth mindset athletic ability

- You can change even your basic athletic ability level considerably
- No matter how much ability you have, you can change it quite a bit
- To be honest, you cannot really change how much athletic ability you have (reverse)
- You have a certain amount of athletic ability, and you cannot really do much to change it.  
(reverse)
- No matter who you are, you can significantly change your ability level
- Your ability is something about you that you cannot change very much (reverse)
- You can change your basic ability through hard work and effort.

Although two constructs loaded, it is worth noting that only growth mindset athletic ability was a positive predictor of confidence in sport psychology consultants. As a possible explanation, research shows that the mindset individuals adopt regarding their abilities and capabilities has a direct impact on their response in any given situation because it is the lens through which they view themselves and their abilities (Dweck, 2000; 2009). Mindset refers to an individual's beliefs about the nature of his or her abilities or attributes, whether that be intellectual, physical or psychological (Dweck, 2011). When athletes adopt a growth mindset toward their abilities and capabilities they uphold the belief that their abilities are malleable and can be developed further by investing more effort, dedicating more time, and being more receptive to feedback from others (Dweck, 2006; 2009). Adopting a mindset that believes one's abilities can be further developed, and being receptive to feedback from others, is a key quality of an athlete, especially at the elite level where one engages with a team of support staff such as the coach, trainer, and sport psychology consultants all of whom are focused on enhancing performance. As noted by Dweck (2000; 2006; 2009; 2011), the key to improving is first believing that one can improve. It

was hypothesized that those who adopt a growth mindset (i.e., believe they can improve their psychological abilities) would possess a more receptive attitude toward sport psychology consultants than those who possess fixed mindset (i.e., don't believe they can improve their psychological abilities).

Previous studies investigating the influence of mindset in the realm of academics (Dweck, 2000; 2006; 2011) and athletics (Dweck, 2009; Golby & Woods, 2016; Gucciardi et al., 2014; Jowett & Spray, 2013; Potgieter & Steyn, 2010) provide compelling evidence in support of the positive influence growth mindset has on a number of performance and performance-related outcomes. Although this study is a new line of research, its results appear to be consistent with findings from previous research examining the influence of mindset (Dweck, 2006; 2009; Golby & Woods, 2016; Gucciardi et al., 2014; Jowett & Spray, 2013; Potgieter & Steyn, 2010) in other contexts and expands the research on mindset by showing that growth mindset positively influences an athlete's confidence in sport psychology consultants.

Specifically, the results indicate that athletes who adopt a growth mindset athletic ability display a higher level of confidence in the services provided by sport psychology consultants. This result is not unexpected because it is logical to assume that athletes with a growth mindset believe their abilities can be further developed and thus are more likely perceive the opportunity to engage with a specialist, such as a sport psychology consultant, as a way to enhance their psychological skills. Athletes with a growth mindset engage in the consultation process because they believe their skills are malleable and thus are confident that specialists are able to assist with performance improvements. Based on the very definition of a growth mindset, it is logical to assume that athletes with a growth mindset toward their athletic abilities would display a more

favorable attitude toward those they are confident will enhance their abilities and thus their performance.

These findings have important implications for practicing consultants, expand the mindset research, and also provide valuable insights that help to close the gap in the literature regarding the collective understanding of the factors that influence an athlete's attitude toward sport psychology consultants. As previously noted, developing a more robust understanding of the factors that influence an athlete's attitude toward sports psychology consultants is of critical importance to applied sport psychology researchers (Martin et al., 2012; Lubker, Visek, Watson, & Singpurwalla, 2012), as it allows for consultants to "determine which strategies that might be attractive to various groups and identify some ways of establishing a rapport" and thus engage more effectively (Martin et al., 2012, p. 3). Raising awareness that growth mindset positively impacts an athlete's confidence in sport psychology consultants is an important insight and should encourage consultants to consider factoring mindset training in when designing and tailoring their services to meet the needs of each individual athlete. Doing so can only help to improve an athlete's attitude toward the consultation process, engage athlete athletes more deeply, and essentially help to optimize intervention effectiveness.

From a practical application perspective, consultants may consider having their athletes complete a growth mindset assessment during the pre-consultation phase to help garner greater insight into the mindset of the athlete prior to engaging in the consultation process. Depending on the response, the consultant may need to first consider focusing on developing the athletes' mindset prior to engaging in the delivering of their services because, as the results indicate, mindset influences the athletes' confidence in the consultation process. Based on these findings, a growth minded athlete will engage in the services provided by a sport psychology consultant

more effectively as they are more confident in consultants' abilities to enhance performance. In contrast, athletes who identify with a fixed mindset may need to engage in a growth mindset workshop as a precursor to engaging in the consultation process. A workshop of this nature may help to create a more fertile mindset and positive attitude toward the consultants and thus enhance the consultation process. Although this study is the first of its kind, the results highlight the direct relationship between growth mindset and athletes' confidence in sport psychology consultants. Consequently, when seeking to maximize the effectiveness of the athlete-consultant relationship, mindset needs to be considered as a key factor during the preparation, designing, and implementation of psychological skills training program delivered by sport psychology consultants.

***Neuroticism and confidence.*** Neuroticism refers to the personality trait that relates to emotions and whether an individual is emotionally stable or has a tendency to experience and cope with negative emotions (i.e., fear, anxiety etc.). Results of this study indicate that neuroticism is positive predictor of confidence in sport psychology consultants. In other words, athletes high in neuroticism displayed higher levels of confidence in sport psychology consultants' services. This is not unexpected as athletes high in neuroticism tend to experience a range of emotional challenges such as fear and anxiety (Kahn et al., 2016) and thus it is intuitive that athletes with this personality trait would be inclined to be confident in the services provided by sport psychology consultants. This result is perhaps even more pertinent for athletes high in neuroticism competing at an elite level such as NCAA Division I sports where the psychological stress is high due to the increased pressure to win and produce optimal performance on a consistent basis (Martin & Andersen, 2013; Wrisberg, Simpson, Lodberg, Withycombe, & Reed, 2009; Wrisberg, Withycombe, Simpson, Lodberg, & Reed, 2012). In light of the increased

pressure placed on student-athletes, it is logical to assume that athletes and coaches would seek out support from staff such a sport psychology consultant to equip them with the skills to successfully manage the psychological stress inherent with competing at the collegiate level. Confidence in sport psychology consultants refers to an athletes' beliefs about the usefulness of mental skills training. Results of this study indicate growth mindset athletic ability and neuroticism are positive predictors of confidence in sport psychology consultants.

**Stigma toward sports psychology consultants.** Stigma toward consultants refers to the belief that others label athletes who work with a consultant as having psychological problems. Results of this study indicate growth mindset athletic behavior and extroversion are negative predictors of stigma toward sport psychology consultants. In other words athletes with a growth mindset and who display higher levels of the personality trait extroversion tend to indicate less stigma toward seeing a sports psychology consultant. From a growth mindset perspective, of the 13 questions used in this study, informed by Dweck's (2000) mindset questionnaire, four questions loaded into the construct growth mindset athletic behavior. The items included in the mindset constructs were asked on a Likert scale to what extent a participant agreed or disagreed with the following questions:

Growth mindset athletic behavior

- During practice/competition, I will persist until I have mastered the challenge being presented
- When I receive feedback during practice, I view it as an opportunity to learn and develop my abilities
- During practice/competition, I embrace the challenges presented
- When my peers are successful, it inspires me.



Although two constructs loaded for growth mindset, it is worth noting that only growth mindset athletic behavior was a negative predictor of stigma toward sport psychology consultants. As previously noted, research shows that the mindset an athlete adopts has a direct impact on their response in any given situation because it is the lens through which they view themselves and the malleability of their abilities (Dweck, 2000; 2009). When athletes adopt a growth mindset they are often willing to invest more effort, dedicate more time to the process, and are more receptive to feedback from others (i.e., coaches and consultants) investing in their development (Dweck, 2006; 2009). Therefore, it is not surprising to note that athletes' who adopt growth mindset athletic behaviors stigmatize consultants less because adopting this mindset increases the likelihood of athletes' views of consultants as a positive support system and thus with less skepticism. Growth minded athletes believe their abilities can be further developed and thus are more receptive to feedback from others such as sport psychology consultants who are focused on improving performance. Consistent with findings from mindset research in other domains, including sport, it is logical to assume that athletes with a growth mindset athletic behavior would display a more favorable attitude toward those they are confident will enhance their abilities and thus their performance such as sport psychology consultants.

Similar to the suggestions highlighted for growth mindset athletic abilities, these findings have important implications for practicing consultants and helps to expand the sport psychology literature by addressing gaps regarding the collective understanding of the factors that influence an athlete's attitude toward sport psychology consultants. As previously noted, developing a more robust understanding of the factors that influence an athlete's attitude toward sports psychology consultants is crucial to applied sport psychology researchers (Martin et al., 2012; Lubker, Visek, Watson, & Singpurwalla, 2012) as it allows for consultants to specifically tailor their services and strategies to engage athletes more effectively (Martin et al., 2012).

Developing an understanding that growth mindset positively impacts an athlete's behavior toward sport psychology consultants is an important insight and should encourage consultants to consider factoring mindset training in when designing and tailoring their services to meet the needs of each individual athlete. As noted earlier, examples could include a pre-consultation mindset questionnaire to establish a baseline on athletes' mindset. Depending on the results, this assessment could be followed up with a mindset workshop which, based on these results, could have a positive impact on athletes with a fixed mindset behavior by reducing their stigma toward consultants. Although a new line of research, the results of this study highlight the direct relationship between growth mindset athletic behaviors and athletes' attitudes toward sport psychology consultants and thus should be considered as a key factors during the pre-consultation process. Doing so can only help to improve an athlete's attitude toward the consultation process, engage athletes more deeply, and essentially help to optimize intervention effectiveness.

***Extroversion and stigma.*** Extroversion refers to the personality trait of an individual and his or her tendency toward being more outgoing, talkative, and expressive. Results of this study indicate that the personality trait extroversion is a negative predictor of stigma toward sports psychology consultants. In other words, athletes who are more extrovert displayed lower levels of stigma toward sport psychology consultants. This finding is not entirely unexpected as athletes high in extroversion tend to be more willing to engage and interact with others (Kahn et al., 2016). Extroverts are also more comfortable using external communication formats to process. Therefore, it is not surprising athletes higher in extroversion tend to see participation in sports psychology consultation as a stigmatized negative experience.

**Cultural preference toward sports psychology consultants.** Cultural preference refers to the degree to which athletes prefer to work with a consultant who has a similar cultural background (Martin et al., 2002). Results of this study indicate that ethnicity, growth mindset athletic behavior, and agreeableness are all negative predictors of cultural preference toward sport psychology consultants. In other words, athletes who identified as non-white had a higher level of cultural preference. Additionally, athletes who adopt a growth mindset athletic ability and who display high levels of the personality trait agreeableness reported lower levels for cultural preference.

*Ethnicity.* In terms of ethnicity, results of this study indicate that ethnicity was a negative predictive variable for cultural preference with athletes who identified as non-white displaying higher levels of cultural preference in their attitude toward sport psychology than those participants who identified as white. The research is conflicting in terms of race/ethnicity and athletes' attitudes toward sport psychology consultants. The results from this study conflict with findings from previous studies (Hamberger & Iso-Hola, 2006; Page et al., 2001) which show no difference for race/ethnicity as a significant predictor of athletes' attitudes toward services provided by sport psychology consultants. A possible explanation, noted by previous research, is that non-white athletes may lack trust in White leaders (i.e., coaches) (Martin et al., 1997). Past cross-cultural research indicates that athletes from New Zealand, compared to athletes from other cultures (i.e., United States, United Kingdom, and Germany), demonstrated a greater cultural preference for consultants with the same cultural background (Anderson et al., 2004). Therefore, cultural background and ethnicity are important considerations and factors that influence athletes' attitudes toward sport psychology consultants. It should be noted that the small percentage of the sample in the present study that identified as a minority population was less than 9% (Black), 5% (Hispanic), and 3% (Other). Therefore, it can be difficult to draw definitive

conclusions and thus there should be caution when generalizing the results as future studies with higher levels of ethnic diversity could provide different results.

***Growth mindset athletic ability.*** Results of this study indicate growth mindset athletic ability was a negative predictor of cultural preference for athletes' attitudes toward sport psychology consultants. Specifically, those athletes with a growth mindset in their athletic ability reported less cultural preference for sport psychology consultants. Results from previous studies (Dweck, 2000; 2006; 2009) reiterate that the mindset of the individual is important because it is the lens that shapes an individual perception, belief and attitude toward situations and people. As noted by Halvorson (2010), individuals who adopt a growth mindset focus on the process, or 'get-better' goals, and perhaps tend to focus more on the strategies being presented than the cultural background of the consultant. Research indicates that those who possess a growth mindset have an advantage over those who have a fixed mindset especially when it comes to improving, dealing with setbacks, working through difficult situations, receptiveness to feedback, and perceiving aspects of their ability as malleable (Dweck, 2006; 2009). The results from this study expand upon the positive influence of a growth mindset and appear to translate positively to athletes' attitude toward sport psychology consultants

***Agreeableness.*** Agreeableness refers to personality traits such as altruism, trust, compliance and an individual's tendency to adjust his or her behavior or response to suit others. Results of this study indicate that the personality trait agreeableness is a negative predictor of cultural preference for athletes' attitudes toward sport psychology consultants. In other words, athletes who are more agreeable displayed lower levels of cultural preference toward sport psychology consultants. This finding is not entirely unexpected as athletes who are agreeable tend to be more naturally trusting, compliant, and adjust their behavior when engaging with

others (Kahn et al., 2016). Therefore, it is not unexpected to find that athletes with this personality trait tend to have less cultural preference toward sport psychology consultants.

### **Recommendations**

The results from this study indicate a link between growth mindset, personality, and athletes' attitudes toward sport psychology consultants. This study is unique, and opens up a new line of research, in that it investigated the predictive relationship between mindset, personality and attitudes toward sport psychology consultants. In doing so, this study addresses the gap highlighted in previous studies regarding personality (Allen et al., 2013; Martin, 2005) as well as sport psychology consulting research (Martin et al., 2012). In light of the growing integration of sport psychology consultants in the realm of athletics, it is crucial that a deeper understanding of the factors that influence athlete's attitudes is established. The results from this study provide valuable insight and practical recommendations for athletes, coaches, consultants, and administrators on how to make the athlete-consultant relationship more effective. A number of recommendations can be drawn from this results of this study.

#### **Recommendations for Consultants and Coaches**

As noted by several researchers, an athlete's attitude is significantly influenced by a number of personal and sport-related factors (Martin et al., 2012). Therefore, it is important for consultants to be aware of these factors and integrate the necessary strategies to enhance the athlete experience and engagement in the consultation process.

1. **Gender awareness training and delivery methods.** Results suggest that there is a link between gender and lack of openness toward sport psychology consultants. Therefore, it is important for consultants and coaches to recognize and be sensitive to the influence of personal factors (Martin et al., 2012). Being aware that male athletes are less open to

sport psychology consultants should encourage consultants to consider modifying the delivery of their services to be more applicable, specific, and engaging male athletes in particular. For both consultants and coaches, implementing strategies that engage male athletes and create an environment that promotes a message that it is safe and healthy to openly discuss challenges may increase the level of openness from male athletes.

2. **Ethnicity/culture awareness training.** With the direct link between ethnicity and cultural preference toward sport psychology consultants it is important for consultants and coaches to recognize and be sensitive to the influence of ethnicity. Appreciating that certain minority groups may have specific cultural preferences is an important insight as it may influence the possible matching of athlete and consultant. Gaining insight into the cultural preference of the athlete is important as matching preferences can help improve the level of engagement of the athlete and the overall effectiveness of the consultation relationship.
3. **Incorporate growth mindset assessments into pre-consultation process.** Results from this study show a direct link between growth mindset and an athlete's attitude, specifically confidence, stigma toward, and cultural preference. Therefore, another recommendation would be to incorporate a mindset assessment or survey as part of the pre-consultation process to help gather insight in the mindset of the athlete prior to engaging him or her in psychological skills training programs. Developing a greater understanding of the mindset of the athlete provides the consultant with a more informed starting point prior to engaging in the consultation process.
4. **Incorporate growth mindset workshops into professional development.** In light of the predictive relationship between growth mindset and an athlete's attitude, specifically

confidence, stigma toward, and cultural preference it would be beneficial to consider incorporating mindset training workshops during the pre-consultation process. If athletes are found to possess a fixed mindset, the consultant and/or coach could engage them in a growth mindset workshop designed to educate and inform athletes on the importance of adopting a growth mindset toward sport psychology training programs. As noted by Dweck (2006), when athletes adopt a growth mindset toward their abilities and capabilities they uphold the belief that their abilities are malleable and can be developed further by investing more effort, dedication more time, and being more receptive to feedback from others (Dweck, 2006; 2009). Therefore, the key to improving is first believing that one can improve. Workshops designed to develop growth mindset could improve an athlete's attitude by increasing the likelihood of athletes being more receptive to feedback, which could in turn increase the potential gains from sport psychology services. This approach would require an adjustment to the pre-consultation process as well as additional resources (i.e., time and workshop materials). However, this relatively low cost investment would have a significant return in that it has the potential to positively impact the outcomes of the athlete-coach consultations.

5. **Incorporate personality assessments into pre-consultation.** Results from this study show a direct link between certain personality traits from the Big 5 and all four aspects of an athlete's attitude toward sport psychology consultants. Therefore, it would seem prudent to consider incorporating a personality assessment as part of the pre-consultation process to help gather insight into the personality of the athlete prior to engaging them in psychological skills training programs. As noted by Allen et al., (2013), personality of the athlete, as well as personality match, is an important consideration in the sport

psychology consulting process. Developing a greater understanding of the personality of the athlete provides the coach and consultant with a more informed starting point prior to engaging in the consultation process and could help to inform the athlete, coach, and the consultant in terms of athlete-consultant matching.

6. **Coach and parent education.** University athletic programs often have extensive budgets. Utilizing some of this budget to educate athletes and coaches on topics such as the benefits of sport psychology or providing education workshops/materials on mindset training would be beneficial. Moreover, raising coaches' awareness of the free resources available through the NCAA is critical. For example, the NCAA offers free support and resources for personality assessments. These resources can help better inform coaches in areas that positively impact athlete development.
7. **Recruiting process.** It is critical for coaches, as well as athletes', to be thorough during the recruiting process because the impact of not getting the right recruit, or committing to a program that is not the right fit, is significant on a number of levels for both the coach and the athlete. Given the results, coaches should consider gathering data on the personality and mindset profile of prospective student-athlete's during the recruiting process. Developing a better understanding of personality profile as well as mindset could help to ensure that coaches are accurately identifying and recruiting athletes' who align with their program culture as well as the support staff (i.e., sport psychology consultant) they will interact with.
8. **Student-athletes.** From a student-athlete perspective, there are a number of recommendations. First, student-athletes' should consider the importance of developing a growth mindset as part of their general athlete development plan as research indicates that there are a number of positive implications to their academic, athletic, and psychological wellbeing. Second, student-athletes' should conduct a personality profile assessment to



increase self-awareness of their unique personality characteristics and how these align with the personality profile of the coaching staff they are being recruited by. Third, given the growing integration, and well-documented benefits, of sport psychology consultant services within collegiate sports, it is prudent for high school athletes' to consider gaining some experience of working with a consultant prior to attending college. This would help student-athletes to develop a greater comfort level and provide valuable experience of working with support staff they will likely interact with while competing at the collegiate level.

### **Recommendation for Future Research**

Advancements in sport psychology consulting depend on a deeper understanding of the factors that influence athletes' attitudes toward consultants (Martin et al., 2012). Therefore, continued research should be undertaken to develop greater insight into factors that potentially influence the consultation process. This study expands upon the existing sport psychology literature by investigating unexamined variables including mindset and personality as predictors of athletes' attitude toward sport psychology consultants. In doing so this study opens up a new line of research and provides better insight into the factors that influence athletes' attitudes. With that future research is recommended in the following areas.

First, the population for this study was primarily white. The study revealed that ethnicity was a predictor for athletes' attitudes toward sport psychology consultants in the dimension of cultural preference, but not in other dimensions. This is important to note given that a large percentage of athletes that compete are non-Caucasian. Therefore, future research replicating the study, using the same regression model, is recommended with a larger and more diverse student-athlete population. It is also recommend that this study be replicated in other countries to develop some cross-cultural data and comparison of results across cultures.

While there is no research available to compare results it was surprising to find no correlation between growth mindset athletic abilities, growth mindset athletic behavior, and the dependent variable lack of openness. There is a dearth of research examining the different, relationship between mindset and athletes' attitudes. Therefore future research is recommended focused on further examining these two aspects of mindset in different sporting contexts and at different levels of competition. Future research is also recommended regarding the design of sport psychology pre-consultation process as well as professional development workshops as discussed in this chapter. Research examining the certification process and continued professional development of sport psychology consultants would provide valuable insight into the attention given to mindset and personality during the professional development of consultants. Another area that requires further investigation is the predictors of actual use of sport psychology. In other words, although mindset and personality are shown to be predictors of attitude, are both also variables predictors of actual use of sport psychology consultants (Anderson et al., 2004). Developing a better understanding of the factors could assist sport psychology practitioners in tailoring their services to specifically meet the needs of the individual athlete. Given the limited research investigating the influence of mindset and personality, researchers are encouraged to replicate the present investigation in different sport settings as this provides additional insight into the influence of these variables and allow for interesting comparison.

### **Conclusion**

In summary, this research extended previous work investigating athletes' attitudes toward sport psychology consultants by examining a new line of research. The results from this study demonstrate a clear relationship between growth mindset, personality, and athletes' attitudes

toward sport psychology consultants, both of which are variables yet to be examined. Dweck's (2000) mindset framework and the Big-Five personality framework (Costa & McCrae, 1992; Costa & McCrae, 2008) were used to assess athletes' mindset and personality. The SPA-R survey was used to gather data and assess athletes' attitudes toward sport psychology consultants (Martin et al., 2002). By isolating personal factors, mindset, and personality, it allowed for a better understand of how these variables independently influence athletes' attitudes toward sport psychology consultants. Existing, reliable, and valid instruments for mindset and personality were used to gather data via online surveys conduct statistical analyses. Statistical analyses revealed that gender (personal factor), growth mindset athletic ability, growth mindset athletic behavior, as well as personality to all be statistically significant predictors of athletes attitudes toward sport psychology consultants. The results from this study have important implications for sport psychology consultants and provides a framework to inform future research.

### **Final Thoughts**

The pressure placed on student-athletes at NCAA Division I level continues to grow and it is the responsibility of athletic departments to provide the necessary structures and support staff to equip student-athletes with the skills and strategies to successful cope with these demands. While a number of athletic departments have taken important steps forward by integrating support staff such as sport psychology consultants (Hayden, Kornspan, Bruback, Parent, Rodgers, 2013; Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wilson et al., 2009; Wisberg et al., 2012), adding staff is only part of the solution. It is critically important that practicing consultants are effective in their role. In order to be more effective, sport psychology consultants must have a better understand of the athletes they are engaging and one way to accomplish this is by continuing to investigate the factors that influence and athlete's attitude

toward sport psychology consultants. Research of this nature can only help to better equip consultants to be more engaging and effective and as a result provide a greater level of support for student-athletes who are challenged with balancing the daily demands of pursuing academic and athletic excellence.

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## APPENDIX A: Recruitment Email

Dear \_\_\_\_\_,

I am conducting a dissertation studying student-athletes' attitudes toward sport psychology consultants and psychological skills training. This study seeks to explore the influence that mindset and personality has on student-athletes' attitudes toward sports psychology consultants. As the coach of student-athletes at the collegiate level, I am e-mailing you because of your direct contact with student-athletes.

I would like to request your help in gaining access to student-athletes who can serve as participants in this study. As part of my request, would you be willing to: (1) share the contact details (i.e., email) of your student-athletes so that I can contact them directly or (2) share the topic of my study with your student-athletes and invite them to participate?

Criterion for the participants include:

1. Any student-athletes
2. Currently participating on your team.
3. Athletes in all sports are eligible to participate

Thank you in advance for your help, and please contact me if you have questions or need additional details.

Sincerely,  
Gareth Smith  
Doctoral Student  
Drake University  
Email: [Gareth.smith@drake.edu](mailto:Gareth.smith@drake.edu)  
Phone: 319-329-9299

**APPENDIX A (cont.): Reminder Recruitment Email**

Dear \_\_\_\_\_,

This is a friendly reminder of my previous email. I am conducting a dissertation studying student-athletes' attitudes toward sport psychology consultants and psychological skills training. This study seeks to explore the influence that mindset and personality has on student-athletes' attitudes toward sports psychology consultants. As the coach of student-athletes at the collegiate level, I am e-mailing you because of your direct contact with student-athletes.

I would like to request your help in gaining access to student-athletes who can serve as participants in this study. As part of my request, would you be willing to: (1) share the contact details (i.e., email) of your student-athletes so that I can contact them directly or (2) share the topic of my study with your student-athletes and invite them to participate?

Criterion for the participants include:

1. Any student-athletes.
2. Currently participating on your team.
3. Athletes in all sports are eligible to participate

Thank you in advance for your help, and please contact me if you have questions or need additional details.

Sincerely,  
Gareth Smith  
Doctoral Student  
Drake University  
Email: [Gareth.smith@drake.edu](mailto:Gareth.smith@drake.edu)  
Phone: 319-329-9299

## APPENDIX B: INFORMED CONSENT

### SECTION 1: Background

Title of Study: Athlete attitudes toward sports psychology consultants: the relationship between mindset and personality.

Researcher: Gareth Smith, Doctorate Candidate – Drake University

Instructions: Please follow the directions and answer the questions within each category.

This is a research study. Please take a moment to decide if you would like to participate. Please feel free to ask questions at any time.

#### Introduction

The purpose of this study is to determine the degree to which mindset and personality influence, or predict, student-athletes' attitudes toward sport psychology consultants. You are invited to participate in this study because you meet selection criteria for this study, which include student-athletes who participate in sports at the collegiate level in the United States. Please note you should not participating in this study if are not a student-athlete participating at the college level.

#### Procedures

If you agree to participate, you will be asked to complete the following survey. The survey asks basic demographic questions related to this study. Additionally, as a participant in this study you will be asked to measure your level of agreement with statements that relate to your mindset, personality, and attitudes toward sport psychology consultants. This survey will take approximately 8 minutes to complete.

#### Study Risks

There are only minimal foreseeable risks at this time involved with participating in this study. Potential risks include inconvenience in taking the time to complete the survey and potential mental or emotional discomfort in providing answers to certain questions. If you are negatively impacted at any time during or after this study, please contact me at [gareth.smith@drake.edu](mailto:gareth.smith@drake.edu), my faculty advisor Robyn Cooper Ph.D. at [robyn.cooper@drake.edu](mailto:robyn.cooper@drake.edu) and Drake IRB at [irb@drake.edu](mailto:irb@drake.edu) or 515-271-3472.

#### Study Benefits

If you decide to participate in this study, there will be little direct benefit to you. However, participants who complete the survey and are willing to provide an email address will be entered into a random drawing to win one of five \$25 gift certificates. It is also hoped the information gained in this study will help provide valuable insight to coaches, administrators and sport psychology consultants responsible for developing student-athletes to their full athletic potential.

#### Compensation

No direct compensation is provided for participation in this survey beyond the opportunity to win one of five \$25 gift certificates.

### **Participant Rights**

Your participation in this survey is completely voluntary, and you may refuse to participate or leave the survey at any time. If you decide to not participate in the survey or exit the survey instrument prior to completion, it will not result in any penalty or loss of benefits to which you are otherwise entitled.

### **Confidentiality and Anonymity**

No information obtained in connection with this research study can be directly identified with you. If you provide an email address in order to be entered into a drawing to win one of five \$25 gift certificates that information will be used for purposes of a random drawing and will not be tied to individual results. All results will be kept confidential. In any written reports or publications, participants will not be identified.

To ensure confidentiality to the extent permitted by law, the following measures will be taken: data will be stored on an encrypted, password-protected hard drive, which will be stored in a locked cabinet that only the researcher can access. Data will be stored for at least three years, or until it is deemed no longer useful.

### **Contacts and Questions**

You are encouraged to ask questions at any time during this study.

- For further information about the study contact Gareth Smith (Researcher) at 319-329-9299.
- If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 271-3472, [irb@drake.edu](mailto:irb@drake.edu).

Print a copy of this form for your records.

By clicking "I consent," you voluntarily agree to participate in this study. Even after acknowledging consent and participation, please know that you may still withdraw at any time for any reason.

## APPENDIX C: Survey Instrument

### SECTION 1: Demographics

**Q1: What is your age?**

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**Q2: What year are you in school?**

Freshman      Sophomore      Junior      Senior      Fifth Year      Graduate

---

**Q3: What is your ethnicity?**

White      Hispanic or Latino      Black or African American      Native American or American Indian      Asian / Pacific Islander      Other

---

**Q4: What is your gender**

Male      Female

---

**Q5: In what range does your cumulative GPA fall?**

A= 90%-100%      B=80%-89%      C=70%-79%      D=60%-69%      F=0-59%

---

**Q6: What is your major?**

Business      Education      Health Science      Psychology      Journalism      Other

---

**Q7: What sport do you participate in?**

Soccer      Football      Tennis      Golf      Basketball      Volleyball  
Rowing      Swimming      Cross Country      Baseball      Softball      Other

---

**Q8: What division do you compete?**

NCAA DI      NCAA DII      NCAA DIII      NAIA      NJCAA

**Q9: Including high school, how many times have you consulted with a Sports Psychologist?**

0                      1                      2                      3                      4                      If more than  
4 please  
list\_\_\_\_\_

**Q10: If you have consulted with a Sports Psychologist, rate how satisfied you were overall with your experience.**

Not at all                      Somewhat                      Satisfied                      Very satisfied                      Extremely  
satisfied                      satisfied                      satisfied                      satisfied                      satisfied

**SECTION 2: Sport Psychology Attitudes****PART 1: Sports Psychology Attitudes – Revised Form (SPA-R)**

The following section explains the dependent variables of this study and how they will be measured. The dependent variable attitude is subdivided into four categories that include openness, confidence, stigma and cultural preference toward sport psychology consultants. Over the last two decades, researchers have attempted to develop a variety of valid and reliable instruments to accurately measure and examine athlete's attitudes about sport psychology consulting. Martin et al., (1997) seminal work resulted in developing a 50-item survey called the Attitudes toward Seeking Sports Psychology Consultation Questionnaire (ATSSPCQ) which was used to assess athlete's attitude toward Sports Psychology Consultants. The ATSSPCQ developed by Martin et al., (1997) was modified to become the Sport Psychology Attitudes - Revised (SPA-R) form. A detailed review regarding the reliability and factor scores of the SPA-R instrument is presented by Martin et al., (2002). Exploratory alpha factor analysis with varimax rotation resulted in a 25-item survey with four factors: (a) stigma toward, (b) confidence in sports psychology consultation, (c) personal openness, and (d) cultural preference.

Confirmatory factor analysis demonstrated the factorial validity of the four-factor model for the SPA-R for both male and female athletes (Martin et al., 2002; Martin et al., 2012) which has been shown to be valid across context and cultures (Anderson et al., 2004; Lavalley et al., 2005; Martin et al., 2004; Martin et al., 2012). According to Vogt and Johnson (2011) factor analysis assists researchers by reducing a broad range of variables into a small group of variables or factors – a factor is a group of variables that are statistically and significantly associated. The SPA-R instrument is designed to assist researchers and sports psychology practitioners to determine whether individuals are: (a) interested in learning psychological skills, (b) are receptive to SPC, (c) confident in the SPC abilities, or (d) tolerant of a SPC personal characteristics. Examples of statement regarding confidence in sport psychology consultant include: "A sports psychologist would help me perform better under pressure" or "a sports psychologist can help improve mental toughness". Examples of statements regarding Openness to sport psychology consultant include: "I am willing to see a Sport Psychology Consultant to discuss self-talk techniques." The survey was adapted for the current studies survey with responses measured by the following: 1= "Strongly Disagree;" 2 = "Disagree;" 3 = "Somewhat Disagree", 4 = "Neutral", 5 = "Somewhat Agree", 6 = "Agree;" 7 = "Strongly Agree".

## PART 2: SURVEY

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. The following questions were informed by Martin et al., (2002).

SD	D	MD	N	MA	A	SA
1	2	3	4	5	6	7
Strongly Disagree	Disagree	Moderately Disagree	Neutral	Moderately Agree	Agree	Strongly Agree

### *Attitudes: Openness Construct Survey Items*

Item	Statement
O7 (01)	Good idea for avoiding worries is to keep one's mind open.
O24 (02)	Athletes with a strong character overcome conflicts by themselves.
O10 (03)	Something respectable about willing to cope with conflicts.
O16 (04)	Emotional difficulties tend to work themselves out in time.
O5 (05)	Certain problems should not be discussed outside one's family.
O14 (06)	There are experiences in my life that I would not discuss with anyone.

### *Attitudes: Confidence Construct Survey Items*

Item	Statement
C17 (C1)	A SPC would help me perform better under pressure.
C15 (C2)	I would get help from a SPC if I was upset about my sport performance.
C8 (C3)	I would like the help of a SPC to better understand myself.
C20 (C4)	An SPC could help me fine-tune my sports performance.
C1 (C5)	An SPC can help improve mental toughness
C22 (C6)	I have felt lost and would have welcomed professional advice.
C12 (C7)	I would feel most secure in receiving help from a SPC.
C8 (C8)	If teammate asked my advice, I might recommend a SPC.

### *Attitudes: Stigma Toward*

Item	Statement
S4 (S1)	I would not go to a sport psychology consultant because my teammates would harass me.
S9 (S2)	I would feel uneasy going to a sport psychology consultant because some people would disapprove.
S13 (S3)	Having seen a sport psychology consultant is bad for an athlete's reputation.
S18 (S4)	I would not want someone to know about me receiving help from a sport psychology consultant.
S19 (S5)	If I went to a sport psychology consultant, I would not want my coach to know about it.
S21 (S6)	If I went to a sport psychology consultant, I would not want other athletes to know about it.
S23 (S7)	The coach would think less of me if I went to a sport psychology consultant.



*Attitudes: Cultural Preference*

Item	Statement
CP2 (CP1)	I respect the opinions of people of my own culture more so than those of people of another culture.
CP6 (CP2)	The athletes that I associate most with are of the same race and ethnicity as me.
CP11 (CP3)	There are great differences between people of different ethnic backgrounds.
CP25 (CP4)	I would be more comfortable with a sport psychology consultant if he/she were the same ethnicity, culture, or race as me.

(Adapted from Martin et al., (2002)

\*Reverse Coded

**SECTION 3: Mindset**

This section of the survey is designed to find out more about your mindset toward your ability. As such there are no right or wrong answers, only your answers. Please answer the questions honestly and try not to think too much about any answer. Use the following scale to rate your agreement with the following questions (See Appendix B for answers description).

**Scale: 1-5**

1 = Strongly Disagree	2 = Disagree	3 = Neither Disagree or Agree	4 = Agree	5 = Strongly Agree
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Questions – Characteristics of a Growth Mindset	S D	D	N	A	S A
1. You have a certain amount of athletic ability, and you cannot really do much to change it.					
2. Your ability is something about you that you cannot change very much					
3. No matter who you are, you can significantly change your ability level					
4. To be honest, you cannot really change how much athletic ability you have					
5. No matter how much ability you have, you can change it quite a bit.					
6. You can change even your basic athletic ability level considerably.					
7. You can change your basic ability through hard work and effort.					
8. During practice/competition, I embrace the challenges presented					
9. When I receive feedback during practice, I view it as an					

opportunity learn and develop my abilities.					
10. During practice/competition, I will persist until I have mastered the challenge being presented					
11. During practice/competition, when I am faced with an obstacle, I am less motivated to learn from the situation.					
12. During practice/competition, if I don't learn something quickly, no amount of going back and practicing the situation will help me to learn the skill being practiced.					
13. When my peers are successful, it inspires me.					

#### SECTION 4: Personality: Five Model

This section of the survey is designed to find out more about your personality. As such there are no right or wrong answers, only your answers. Answer each question choosing the answer that applies to you more often than not. Please answer the questions honestly and try not to think too much about any answer. Use the following scale to rate your agreement with the following questions.

1 = Disagree Strongly	2 = Disagree a little	3 = Neither Agree or Disagree	4 = Agree a little	5 = Agree Strongly
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I see myself as some who...

<i>Personality Construct Survey Items</i>	
Question	Statement
1	Is talkative
2*	Tends to find fault with others
3	Does a thorough job
4	Is depressed, blue
5	Is original, comes up with new ideas
6*	Is reserved
7	Is helpful and unselfish with others
8*	Can be somewhat careless
9*	Is relaxed, handles stress well
10	Is curious about different things
11	Is full of energy
12*	Starts quarrels with others
13	Is a reliable worker
14	Can be tense
15	Is ingenious, a deep thinker

16	Generates a lot of enthusiasm
17	Has a forgiving nature
18*	Tends to be disorganized
19	Worries a lot
20	Has an active imagination
21*	Tends to be quiet
22	Is generally trusting
23*	Tends to be lazy
24*	Is emotionally stable, not easily upset
25	Is inventive
26	Has an assertive personality
27*	Can be cold and aloof
28	Perseveres until the task is finished
29	Can be moody
30	Values artistic, aesthetic experiences
31*	Is sometimes shy, inhibited
32	Is considerate and kind to almost everyone
33	Does things efficiently
34*	Remains calm in tense situations
35*	Prefers work that is routine
36	Is outgoing, sociable
37*	Is sometimes rude to others
38	Makes plans and follows through with them
39	Gets nervous easily
40	Likes to reflect, play with ideas
41*	Has few artistic interests
42	Likes to cooperate with others
43*	Is easily distracted
44	Is sophisticated in art, music, or literature
(Adapted from John & Srivastava, 1999)	
*Denotes reverse-scored items	

Extroversion: 1, 6\*, 11, 16, 21\*, 26, 31\*, 36

Agreeableness: 2\*, 7, 12\*, 17, 22, 27\*, 32, 37\*, 42

Conscientiousness: 3, 8\*, 13, 18\*, 23\*, 28, 33, 38, 43\*

Neuroticism: 4, 9\*, 14, 19, 24\*, 29, 34\*, 39

Openness: 5, 10, 15, 20, 25, 30, 35\*, 40, 41\*, 44