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## Retired Indigenous And Non-Indigenous College Student Athletes' Mental Health Relating To Athletic Identity, Cultural Identity, And Career Transition

Victoria Williams

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RETIRED INDIGNEOUS AND NON-INDIGENOUS COLLEGE STUDENT  
ATHLETES' MENTAL HEALTH RELATING TO ATHLETIC IDENTITY,  
CULTURAL IDENTITY, AND CAREER TRANSITION

by

Victoria Williams  
Master of Arts, University of North Dakota, 2019

A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Grand Forks, North Dakota

August

2022

This Dissertation, submitted by Victoria Williams in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and hereby approved.

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Date

## PERMISSION

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## ABSTRACT

To date, empirical studies have investigated the transition or retirement phase, following the conclusion of a student-athletes' four-year career as a comparison between student-athletes and non-athletes. Specifically, when investigating these constructs, researchers have failed to thoroughly investigate the role cultural identity may play in mitigating psychological symptoms during the transition phase. As such, this study will seek to investigate both Indigenous and non-Indigenous retired college student-athletes, during the transition phase, in terms of the degree to which they identified with their athletic identity, cultural identity and career transition. It is expected those retired Indigenous and non-Indigenous student-athletes who identified significantly with their athletic identity during the transition phase, will experience greater mental health symptoms. Further, it is expected retired Indigenous student-athletes, whom possessed strong cultural associations, will have experienced less mental health symptoms, during the transition phase. Lastly, the psychological symptoms and coping strategies experienced by both Indigenous and non-Indigenous retired student-athletes will be examined. It is expected retired student-athletes who possessed a strong athletic identity combined with an insignificant cultural association, will experience greater psychological symptoms, and demonstrate maladaptive coping strategies. Understanding the association between these variables may be beneficial for future Indigenous and non-Indigenous

student-athletes during the transition phase, with the intent of minimizing mental health symptoms and subsequently learning effective coping skills and strategies.

*\*For the purpose of this paper the term 'Indigenous' will include American Indian, Alaskan Natives, and Aboriginal Peoples of Canada*

**Keywords:** Student-Athlete, Indigenous, Transition, Mental Health, Cultural Identity

# CHAPTER I

## INTRODUCTION

### **Indigenous and Non-Indigenous Retired College Student Athletes' Mental Health Relating to Athletic Identity, Cultural Identity, And Career Transition**

Imagine growing up on a First Nation community or Reservation with dreams of pursuing post-secondary education. Further imagine combining one's education with the possibility of playing competitive athletics through having attained an athletic scholarship. This in itself proves to be a challenge given Indigenous-student athletes are required to pass traditional standards which are normed based on a predominantly White sample (McDonald & Chaney, 2003). For many Indigenous student-athletes, this may be considered a fleeting thought or just a pipe dream. However, for a small few, this experience becomes reality. Indigenous student-athletes competing at an intercollegiate level are few and far between. In fact, those competing in North America comprise the tip of the iceberg. Factually, less than 1% (Rossi, 2015) of all intercollegiate competitors are part of this demographic. It's difficult to surmise the relative hurdles Indigenous student-athletes must endure en route to realizing such a dream. One can envision numerous stressors likely to be encountered along the way.

Emotionally, leaving one's province, state, and or country would prove difficult. Moving from one's inherent community and home; separating oneself from family and community members and community teammates would take an emotional toll. Learning to accept and adapt to an entirely different culture sounds daunting. In terms of joining a competitive college athletic team, further expectations would need to be addressed as the indigenous student-athlete would most certainly find themselves in the minority. As

such, the Indigenous student-athlete would possibly be faced with acculturation stressors, possibly feeling the need to adopt the primary culture's value system in addition to other possible societal norms (McDonald & Chaney, 2003)

The student-athlete may also experience social stressors, including, but not limited to: relocating and adjusting to housing/dorm life; living with a new roommate; familiarizing oneself with new coaches, trainers, teammates, professors and classmates. Adapting to and possibly adopting differing social relationships among teammates and classmates could be classified as stressful.

In terms of mental stressors, student-athletes would be required to meet academic standards and requirements as set by respective colleges and universities. Adjusting to varied semester timetables and course workloads would be deemed stressful to say the least. In terms of the athletics and team play, student-athletes would be required to learn new competitive systems and plays, which would be deemed an additional stressor.

Regarding physical stress, student-athletes would be required to adhere to rigid conditioning, workout and practice schedules as dictated by the athletic department.

Additionally, dietary expectations and rest/wellness practices could prove stressful for student-athletes coming from varied cultural backgrounds.

The college athletic careers of both Indigenous and non-Indigenous student-athletes is followed by the transition or retirement phase. It is this area I will examine in terms of athletic identity, cultural identity, and career transition.

## **Background**

Students who are offered the opportunity to play a sport at the Collegiate level are referred to as college athletes or student-athletes. The National Collegiate Athletic

Association, NCAA, is a member-led, non-profit organization dedicated to the well-being and lifelong success of college athletes across the United States (Vcortez, 2019). There are nearly half a million college athletes making up 19,750 College teams within the NCAA organization (Vcortez, 2019). The NCAA has three divisions: Division I (D1), Division II (D2), and Division III (D3). These divisions separate schools by their level of competition and the resources of their athletic departments. Although the NCAA reports being committed to the well-being and lifelong success of their athletes (Vcortez, 2019), the literature lacks research regarding student-athletes mental health whilst transitioning into the next chapter, essentially retirement. The NCAA does not outline a standard procedure requiring or encouraging athletic departments to better prepare athletes for the multifaceted experience of athletic retirement (Alferman, Stambulova, & Zemaityte, 2004; Anderson, 2012; Knights, Sherry, & Ruddock-Hudson, 2016; National Collegiate Athletic Association, 2016b; Park, Lavalley, & Tod, 2013; Stephan, Bilard, Ninot, & Delignières, 2003).

According to the National Collegiate Athletic Association (NCAA, 2016), there are 460,000 Division I student-athletes competing in college athletics per year in the United States. With a graduation rate of 86%, approximately 94,227 student-athletes graduate from athletic competition each year (National Collegiate Athletic Association, 2015). Of those, only 2% will become professional athletes either pursuing professional teams or Olympic squads, leaving 98% of elite athletes transitioning into life beyond competitive athletics and into athletic retirement (NCAA, 2016). For the 98% of athletes transitioning into an alternate phase of life, it is hypothesized they will face mental health symptoms to some degree.

Many studies focus on student-athletes during their four years of eligibility. Other studies focus on comparisons between student-athletes and non-athletes. Seldom does the literature focus on a student-athlete's mental health following the end of their career. The transition to becoming a student-athlete is a pivotal moment in an athlete's life. However, even more impactful, is the moment student-athletes transition into the next phase of their lives, the phase lasting much longer than their four-year eligibility status, that of retirement from competitive sports.

### **Transition Phase**

Student-athletes aspire to play at the professional level. Considering only 2% of all student-athletes will become professional athletes either pursuing professional teams or Olympic squads this leaves 98% of elite athletes transitioning into life beyond competitive athletics and into athletic retirement (NCAA, 2016). Student-athletes spend the majority of their time focusing on their sports career, their education, and balancing other stressors, which often reduces their time for academics and career planning. Not having sufficient time to engage in career exploration may result in an individual's limited identity development outside their prominent role of being a student-athlete. Miller and Buttell (2018) performed a systematic literature review of 14 articles. Themes throughout the articles were identified including retirement planning, identity loss, coping skills, and support systems.

Accordingly, one of the articles by Lavalley (2005) examined how a life development intervention affected athletes' recent career transition. The participants in this study included 71 English and Scottish male soccer players. The sample was split into two groups: 32 participants in the intervention group and 39 participants in the

control group. The researchers measured the difficulties experienced, following the career transition. This was measured through a self-report with the British Athletes Lifestyle Assessment Needs and Career and Education (BALANCE) scale as well as the Transition Coping Questionnaire (TCQ; Lavalley, 2005). There were significant differences found in the post-intervention group with higher levels of adjustment to “situation, personal characteristics of self, support from others, and coping strategies” (Lavalley, 2005). The results from this study support the notion, life development intervention can lead to an athlete’s increased ability to better adapt after retiring from athletics. A limitation of this study was it did not specify what specific content of the intervention leads to this increase in adaptability.

Additionally, Torregrosa et al. (2015) conducted semi-structured interviews to complete a longitudinal study evaluating how an athlete views retirement before and after the end of their athletic career (Álvarez et al., 2004). The interviewers were debriefed and followed an interview guide. The participants involved in this study included 10 male and 5 female Spanish athletes who retired 10 years ago. From the previous 2004 study, the participants were characterized into a retirement preparedness course which included: linear (primarily concentrated on athletic career), convergent (athletic career primarily with employment, school, or identity), and parallel (multiple identities with athletic career, school, and employment equally significant; Álvarez et al., 2004). Themes from the interviews emerged making a difference in the career transition including planning, choosing to end their career voluntarily, having more than one personal identity, and social support. The breakdown of the athletes’ course of retirement was as follows: 27% followed the linear track, 33% followed the convergent track, and 40% following the



parallel track. It was reported those who followed the linear track had a more difficult experience with each of the themes identified, whereas the convergent and parallel tracks had a difficult experience with choosing to end their career voluntarily. The results suggest a track involving retirement planning may create a more effective experience with career transition for athletes.

A study by Park et al. (2013) sought to identify the factors involved in the relationship between athletes retiring and the beginning stages of transitioning. Park et al. (2013) performed a systematic review of 122 research studies. Overall, the studies included: 55 qualitative studies, 56 quantitative studies, and 15 mixed method studies. These studies resulted in 13 longitudinal designs, and 113 cross-sectional methods, encompassing data from 13,511 participants, with 1,909 athletes (Park et al., 2013). The information reviewed was appropriate to competitive athletes, specifically college seniors competing at the Division I level. Throughout the review, 15 dependent variables were recognized including: athletic identity, voluntariness of retirement, career/personal development, sport career achievement, control of life, time passed after retirement, balance of life while competing, coping strategies, pre-retirement planning, and psychosocial support (Miller & Buttell, 2018). In 34 of the studies, stronger athletic identities were indicated in having a correlation with a positive transition from athletics. It was also indicated in 18 of the studies, control over one's retirement was correlated with a positive athletic transition. Many studies proposed the importance of having coping skills throughout the career transition. There were 32 studies explaining the importance of and inclusion of: social support, processing grief, acceptance skills, and retirement planning as factors helping the transition process for student-athletes. In this

review, 28 total studies indicated planning for retirement helped with a better transition process.

Similarly, to the aforementioned article, Knight et al. (2016) performed a systematic review of 10 research studies, involving 1,089 high level athletes and 45 sports in the professional, international, national, Olympic, and collegiate levels. The student-athletes in these studies had completed the career transition process. Planning retirement was established as an important step for a better athletic career transition. Alfermann et al. (2004) explained through their research, there is a difference in “higher cognitive, emotional, and behavioral readiness” in an athletic career transition when retirement planning takes place (Knight et al., 2016, p. 299). It also described student-athletes having “feelings of loss and void” (Knight et al., 2016, p. 299). Overall, this review identified student-athletes with higher levels of athletic identities who were more likely to experience “adjustment difficulties, lack of retirement planning, and more frequent and severe psychological difficulties” (Erpic et al., 2004; Grove, Lavalley, & Gordon, 1997; Knights et al., 2016, p. 299).

Research conducted by Willard and Lavalley (2016) on career transition in professional ballet dancers stated, the NCAA does not offer financial assistance, training, or support following graduation of college athletes (National Collegiate Athletic Association, 2016; National Football League Player Association, The Trust, 2017). It is suggested further research be conducted with college athletes because their retirement is determined by graduation and ineligibility rather than personal choice.

Cummins and O’Boyle (2015) examined the transition of Division I student-athletes from athletic careers to nonathletic careers, and in doing so, studied the main

psychosocial factors impacting this transition. The objective of this research study was to increase the knowledge of specific psychosocial factors involved in a student-athlete's transition to post-college life including: athletic identity, career development, financial standing, and social well-being. An interview guide was used to structure the interview with participants. The interview guide was developed using past research articles pertaining to interviews and psychosocial influencing factors with transitions (Patton, 2002; Gillham, 2000; Wylleman & Lavallee, 2004; Schlossberg, 1981). The open-ended questions presented to the participants related to at least one of the following: background in the sport, career aims, expectations and perceptions about the transition process, social factors, psychological factors, and institutional influence (Cummins & O'Boyle, 2015). Nine total participants were involved in the study, of which, four athlete participants were transitioning into nonathletic careers, while five other participants had already transitioned into new careers. All participants were former/current NCAA Division I basketball student-athletes. The nine participants were selected because their experiences were applicable to the research study. Considering the retrospective group, the five participants who transitioned into new careers were selected because of their success regarding personal annual income being in conjunction with their psychological well-being. The retrospective average group age was 25. The prospective group included the other four participants, who planned to graduate in five months at an average age of 21. A between-subjects design was used in this research study. Semi-structured phone interviews were conducted with each participant for approximately 1.5 hours. To measure the variables in an open coding method, the qualitative interview was transcribed word for word to analyze the content and identify common factors affecting their transitions.

Further axial and selective coding were then used to identify the five main categories relating to athletic career transitioning and the four main themes associated with successful career transitions.

Themes emerging from this research included five general categories associated with transitioning to a post-college career: motivation to transition, overall college experience, perceptions of transition, career direction, and identification with basketball (Cummins & O'Boyle, 2015). The four categories associated with a successful transition included: balanced college experience, pretransition planning, positive social support, and openness to explore alternatives (Cummins & O'Boyle, 2015). These categories represent psychosocial factors influencing the transition phase. Limitations to this study included results falling into a retrospective recall bias. Additionally, the study had a small sample size from only one specific sport and one transition, which limited the generalizability of the study.

Furthermore, Stout (2018) conducted a literature review examining ten articles exploring the transition process from college student-athlete into post-college life. The articles were examined and organized into four main themes: overall transition experience, athletic identity, impact of injury and mental health, and career maturity.

### **Transition Experience**

Harrison and Lawrence (2004) investigated student-athletes' views of the transition process out of athletics. There were 79 male and 64 female participants involved in this study from South Carolina. They were all NCAA Division II student-athletes. A self-report measure using the Life After Sports Scale (LASS) (Harrison & Lawrence, 2002, 2004) was used to measure the variables. For the observation section,

participants observed a profile of a student-athlete and wrote about how it associated with their individual lives. The major themes emerging from this study included: career path well planned, balancing academics and athletics, and positive role models. The importance of planning an enjoyable future career path was evident for these student-athletes. Participants indicated combining their athletic lives and future careers by choosing a career based around their sport. The participants also relayed the importance of striking a balance between their education and athletic lives. From examining the student-athlete profile, the participants expressed having a role model who had similar experiences, was important to them.

A commonality among participants of any sport was having a coach or mentor provide direction and assistance to them throughout their athletic career, and more importantly during the transitional experience. Bjornsen and Dinkel (2017), explored how a coach affects the transition of an athlete out of a sport. Additionally, they examined the influence a coach can have regarding the academic/career help programs designed for student-athletes. Fourteen coaches from Division I schools partook in this research study. Twelve participants were male and two participants female. Using methodology focused on examining an individual's conscious experiences, semi-structured interviews were conducted over the span of an hour and later transcribed to be analyzed. Schlossberg's Transition Theory (STT) was used to identify the main themes involved in the transition process for student-athletes. Researchers discovered the transition process is not simple for student-athletes. Many participants believed it is important for student-athletes throughout the transition process, to have access to academic support programs. Coaches agreed student-athletes' needs should be understood and acted upon throughout their

entire college career. Assistance in terms of helping student-athletes declare future career paths early and by allotting time for experiential learning by becoming involved in shadowing or internship opportunities were deemed important program inclusions. Student-athletes tend to lack these types of experiences, which would assist with post-college career development. Recommendations from this study suggest mentorship programs be implemented for underclassmen by utilizing seniors or alumna.

Leonard and Schimmel (2016), in their research project, sought to analyze the transition of student-athletes leaving college. Secondly, they examined the effects of the Theory of Work Adjustment (TWA). Third and finally, they sought to identify experts regarding the importance, applicability, and potential use of the elements of TWA with student-athletes (Leonard & Schimmel, 2016). Eleven experts were identified from 8 Division I Universities and 3 Division II Universities. Each of the experts had attained a Master's or Doctoral degree in the following areas of study: Higher Education or Sport and Exercise Psychology and Counseling. Researchers used the Delphi method to gather data, using open ended questions regarding the TWA. Additionally, 24 statements were presented and rated on a Likert scale of "importance, applicability, and potential use" (Stout, 2018). The gathered data was split into four themes: "future vocational skills, general academic information, transitional topics, and identity development" (Stout, 2018). For student athletes to experience a successful transition, the results demonstrated students' skills must correspond with the work being done in a career.

Grove et al. (1997) wanted to understand how athletes "cope with athletic transition," and how coping skills are impacted by one's athletic identity (Miller &

Buttell, 2018). The dependent variables, athletic identity, and coping strategies were measured using the Athletic Identity Measurement Scale (AIMS) and the COPE inventory 60-item assessment, which demonstrated high reliability when used as a pilot study. In this study, 28 female and 20 male Australian former athletes completed questionnaires. The participants, on average, retired at the age of 25 years old. Participants demonstrated a variety of coping strategies including: “acceptance, positive reinterpretation, planning, active coping, mental disengagement, and seeking of social supports”, which were significantly utilized more than other strategies (Grove et al., 1997, p. 196). A stronger athletic identity correlated with a more difficult decision-making process to retire. Results indicated stronger athletic identities were also significantly related to stronger coping strategies, including the following: venting emotions, mental disengagement, behavioral disengagement, reliance on denial, and seeking additional social and emotional support.

Another study suggested student-athletes develop values, such as “compassion, companionship, health and fitness, personal achievement, public image, sportsmanship, team cohesion and winning” from participating in a college sport (Leonard & Schimmel, 2016). However, throughout the literature, these values have not demonstrated any effectiveness towards the transition phase. In fact, the literature points out if an athlete has a stronger athletic identity, it will make the transition phase more difficult.

### **Athletic Identity**

Athletic identity is defined as the degree to which an individual identifies with their role as an athlete (Brewer, Van Raalte, & Linder, 1993). “Student-athletes are multidimensional persons, a fact that the hyphenated nature of the title aptly

demonstrates. They are not just students and athletes, but also daughters and sons, wives and husbands, girlfriends and boyfriends, sisters and brothers, employees, and are in the process of developing as engineers, teachers, nurses, doctors, and existential- humanistic psychologists” (pg 2, Whitehead and Senecal, 2019) As a result of a strong athletic identity, the athlete’s risk of burnout tends to increase. A strong athletic identity may leave the athlete with emotional vulnerabilities and difficulties following unexpected or unfavorable results during competition (Coakley, 1992; Gustafsson, Kentta, & Hassmen, 2011).

A study conducted by Chang, Wu, Kuo and Chen (2018), sought to examine the association between athletic identity and the development of athlete burnout. Athletic identity was measured using the Athletic Identity Measurement Scale- short version (AIMS) (Brewer et al., 1993). Psychological flexibility was assessed using a 7-item Acceptance and Action Questionnaire-II (AAQ-II) (Bond et al., 2011). Athlete burnout was assessed using the Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001). The study used a two-wave, time-lagged survey. Participants included 132 Taiwanese college athletes with a mean age of 19.97 years. These athletes participated in a variety of sports including: basketball, volleyball, tennis, track and field, soccer and tae kwon do. Initially, (time 1), athletes completed the AIMS, the AAQ-II and the ABQ. Three months later (time 2) the same group of athletes were required to complete the same three questionnaires. Results indicated the degree to which one identifies with athletic identity in terms of possessing either a strong association or a weak association which included both positive and negative effects and emotional exhaustion. Thus, an inverse relationship was determined. With high athletic identity comes high emotional exhaustion



and low psychological flexibility. A negative association was found with high psychological flexibility being associated with lower emotional exhaustion and lower athletic identity (Chang, Wu, Kuo and Chen, 2018).

The aforementioned study outlined the importance of athletic identity and the potential negative impacts it may have on student-athletes mental health. A strong athletic identity may prove harmful to student-athletes transitioning into their future endeavors by heightening their low psychological flexibility thereby making them feel as though their athletic identity was their sole identity. On one hand, a strong athletic identity may help athletes avoid burnout and emotional exhaustion by fostering the motivation and energy required to engage in activities related to their athletic role (Martin & Horn, 2013). The motivational side may also assist in career transition; however, this was not covered within this study and thus further research on this topic is required.

Lavallee and Robinson (2007) researched a retrospective qualitative analysis of what promotes or inhibits the development of one's identity, and how athletic identity affects the transition from an athletic career. Participants included five British female gymnasts with an average age of 23.8 years old, who retired at an average age of 16.6 years old. A semi-structured interview was used to gather the data. Results indicated the athletes were "encouraged to dedicate their lives to gymnastics and were, as a result, left feeling lost and helpless when they retired" (Lavallee & Robinson, 2007, p. 119). Several themes emerged from the interviews, including: the path to excellence, power dynamic between coach and athlete, identity searching, and losing, maintaining, and regaining control (Lavallee & Robinson, 2007). The gymnasts also indicated they felt forced to

invest more in their athletic identity, resulting in potentially less self-development and self-worth, leaving the gymnasts feeling lonely and lost. It was proposed at a young age, athletes need to invest more time learning coping skills rather than focusing solely on their athletic identity, in order to have a better athletic career transition later in life.

A study focusing on college gymnasts found, following sports retirement, many of the gymnasts felt depressed and unproductive (Blinde & Stratta, 1992), and experienced a deep feeling of meaninglessness and uncertainty pertaining to their futures (Kerr & Dacyshyn, 2000). Regarding the aforementioned citation, whether gymnasts voluntarily or involuntarily retired from their sport, they were not exempt from the difficulties encountered during the transition period from college athletics. Their gymnastic identity was so strong, they experienced difficulty regarding: what else interested them, what skills they possessed or what other goals they had besides those relating to gymnastics (Warriner & Lavalee, 2008) Furthermore, it was determined by Kerr and Dacyshyn (2000), gymnasts do find new identity and meaning beyond their college gymnastic careers, however, it is unclear how long the “new identity” process takes.

Poux and Fry (2015) explored the perceptions NCAA Division I student-athletes have towards their team’s motivation and their personal career exploration, engagement, and athletic identity (Stout, 2018). Fifty males, fifty females, and one individual who did not identify a gender, participated. The following sports were included in the study: football, basketball, track and field, rowing, baseball, softball, tennis, and golf. The team’s motivation level was measured by the Perceived Motivational climate in Sport

Questionnaire (PMCSQ). The caring level of the team was measured by Newton et al.'s 13-item Caring Climate scale (CCS). The Athletic Identity Measurement Scale (AIMS) was used to measure athletic identity. The Student Occupational Engagement Scale (OES) was utilized to gather data on career exploration and engagement. The Career Decision Self-Efficacy Scale (CDSSES) measured self-efficacy feelings among the student-athletes. The findings indicated "Athletes' perceptions of caring and task-involving climates [within their teams] were positively associated with their athletic identity, along with their career exploration and engagement" (Poux & Fry, 2015, p.366). Those who experienced environments of caring and task-involving were projected to be better prepared students and "holistic human beings" (Poux & Fry, 2015, p.367). Student-athletes tend to have limited time to develop their post-college career paths. Student-athletes "find themselves in the predicament of seeking future employment, too often without proper training and preparation" (Poux & Fry, 2015, p.367). It is suggested if an athlete only focuses on their identity as an athlete, it could affect their career development in adverse ways.

Lally (2007) focused on the identity changes amongst student-athletes who retired from collegiate athletics. From a Canadian University, three male and three female student-athletes were interviewed, in-depth on three separate occasions. They were asked to think of past experiences. Results suggested more participants established an athletic identity at a young age with aspirations of playing professionally. Most understood at the conclusion of year three, their athletic careers would soon be over, which resulted in feelings of losing their identity. Some participants feared experiencing an identity crisis upon graduating. Thoughts were focused on missing being part of a team. Participants

sought advice from past teammates who had experienced the transition from collegiate athletics. It was discovered the most important step in the transitional process for athletes, was minimizing their identity in athletics and “emotionally withdrawing” from their athletic career (Stout, 2018). Lastly, the participants made steps towards being physically active aside from their athletic career.

Sturm, Feltz, and Gibson (2011) investigated athletic identities of student-athletes between Division I and Division III institutions in the Midwest. A total of 66 Division I athletes and 122 Division III athletes, with 67 being female and 121 being male were studied. Using the Athletic Identity Measurement Scale (AIMS), athletic identities were recognized and measured. The Measure of Student Identity (MSI) was used to determine respective student identities. Data was gathered through self-report measures. Half of the participants were given the AIMS, and the other half were given the MSI. Because of the 2 x 2 x 4 (Divisional Status x Gender x Class Level) factorial design, a MANOVA and Levene’s Test of Equality of Variance was used to analyze significant differences (Stout, 2018). Results demonstrated a significant difference among the identities of male and female student-athletes. No significant differences were shown between the Division I and III institutions. Overall, female student-athletes, demonstrated a weaker athletic identity along with a "significantly stronger student identity, when compared to males" (Sturm et al., 2011, p.302). Because males tend to have greater opportunities to transition into professional athletics, they tend to possess a stronger athlete identity with a weaker student identity. It was noted, Division I schools do not put more importance on athletic identity than Division III. Additionally, ‘more importance’ was not put on student identity in Division III schools compared to Division I schools.

## **Injury and Mental Health**

Along with a strong athletic identity, consequently, comes the possibility of negative mental health effects. Some student-athletes tend to label themselves as “athlete-students” which has the potential to put added pressure onto an already high-pressure lifestyle. Whitehead and Senecal (2019) determined the normal biological self-actualizing process of the student is exchanged for the performance-at-all-costs model. Hence the term “athlete-student” as opposed to student-athlete. The performance-at-all-costs model outlines performance in one’s respective sport is what matters the most, despite the possibility of their mental health and well-being, being one of those costs. Being an athlete or any athlete at an elite collegiate level has specific demands both physically and mentally. At the D1 level, athletes are held to high performance standards. While maintaining athletic performance standards, student-athletes are also expected to: attain an acceptable GPA, eat a balanced diet, partake in extra work outs, participate in an active social life, while trying to balance life’s additional stressors.

The aim of an article written by Whitehead and Senecal (2019), was to outline the existential-humanistic perspective, sport places on D1 NCAA student-athletes. Highlighted were the challenges student-athletes faced with balance and mental health. The authors were investigating problems pertaining to health, development and balance. While competing at an elite level, the three aforementioned aspects were at risk of being lost (Whitehead and Senecal, 2019). Throughout the article, the author’s position-maintained performance and health were in conflict with one another. Elite performance standards of Division 1 college athletes conflicted with the balance of one’s mental health. This stance was similarly addressed by Brohm (1978) and Martinkova (2008).

The authors outlined three problems they believed to be the most significant (i.e., health and well-being, development, and the balance between sports, school and social life).

Simon and Docherty (2014) compared health-related quality of life between former Division I athletes and non-athletes. Participants included 1280 former college athletes and nonathletes between the ages of 40-65 from a midwestern University. An online survey was used to collect data. Out of the surveys sent out, 638 were completed and returned. Out of the surveys returned, 232 were former athletes and 225 non-athletes surveys were considered eligible. Each participant responded to a variety of questions based on the Patient-Reported Outcomes Measurement Information System (PROMIS) which included: scales for sleep, anxiety, depression, fatigue, pain interference, physical function, and satisfaction with participation in social roles. Results indicated on 5 of the 7 scales, the health-related quality of life for former athletes was significantly lower than that of non-athletes. Former college athletes also reported having limitations throughout their daily activities. Furthermore, athletes stated having more major and chronic injuries when compared to the nonathlete participants.

Stoltenberg, Kamphoff, and Lindstrom (2011) analyzed athletic career-ending injuries and the psychosocial factors associated with this transition for a student-athlete. The participants included five males and two females whom previously played sports as a NCAA Division I or II student-athlete but experienced an injury in the last five years, thereby ending their athletic careers. Thirty-five to sixty-minute semi-structured face to face or phone interviews were used to explore this transition. Using the Conceptual Model of Adaptation of Career Transition, the interview questions covered the following topics including: “circumstances surrounding the sport-career transition, psychosocial

factors related to the sport-career transition, perceptions of control, athletic identity, developmental experiences, available resources for adaptations to career transition, and quality of career transition” (Stout, 2018). The interviews were transcribed to identify common themes which included: consequences of the injury, social support, athletic identity, nature of the injury and pre-retirement planning (Stoltenberg et al., 2011). A few conclusions were discovered through this analysis. Participants reported feeling negative emotions when experiencing this transition, but these emotions decreased over time. It was reported a better transition occurred, when a physician relayed to them, their career was over rather than the participant making the decision themselves. Lastly, those with a stronger athletic identity had more difficulties psychosocially than those whose athletic identities were weaker.

### **Career Maturity**

The final theme of Stout’s (2018) literature review focused on career maturity. Thompson et al., (1984) defined career maturity as “a multidimensional trait that is part affective, part cognitive, and increased irregularly with age and experience” (P.7)

Murdock, Strear, Jenkins, Guarnieri, and Henderson (2014) aimed to review a program in the United States at a University intending to help with career development for student-athletes following graduation. A total of 110 male and female student-athletes from a Division I University participated in the study. A self-report measure was given to participants to review the career development program. The Lass Athletics Domain subscale was utilized, which measured: athletic identity, self- concept, and the perceptions of academics, social life and career development (Stout, 2018). The dependent variable was the average scores from the Lass Athletics domain subscale, and

the independent variables included: the demographics, GPA, and career intervention sessions attended. Results indicated student-athletes showed less of a "perceived need for occupational information, academic performance, and career maturity" (Murdock, et al., 2014, p.404). This deterred their progress towards career development from the program implemented at this University. It also indicated males seemed to need more career development assistance with preparing for the future following college athletics than females.

Linnemeyer and Brown (2010) sought to analyze the career maturity of students involved in Athletics, Fine Arts, and General Studies. With 104 General Studies students, 121 Fine Arts students, and 101 student-athletes, 66% of the total undergraduates were women and 40% were men. Through a self-report measure, the Career Maturity Inventory-Revised (CMI-R) helped distinguish the career maturity of each student with a higher score indicating more maturity. To identify identity foreclosure status, the Objective Measure of Ego Identity Status was given to participants to complete. Career foreclosure was measured by the Commitment to Career Choices Scale (CCSC). Through the analysis of the data, results indicated the student-athletes displayed the lowest career maturity among the three groups of students. It is suggested student-athletes tend to avoid exploration of their own interests for career options, but instead listen to someone else's choices for them. Student-athletes reported failing to focus on searching for a career because they would lack focusing on their respective sport. On the other hand, the Fine Arts students were the students more likely to have a backup plan and were more open and flexible when exploring career opportunities (Stout, 2018). This study outlines the lack of exploration by athletes into their futures due to the overwhelming emphasis they



place on their respective sport. It is unclear if the emphasis being placed on individual sports is due to the cause of outside factors including coaches, peers, family members, status, and or the media.

Tyrance, Harris, and Post (2013) wanted to research the associations between Division I student-athletes preparedness for a career with athletic identity, gender, race, sport, and the expectancy of playing professionally. Overall, 538 student-athletes from the Bowl Championship Series conferences in the NCAA Division I participated in this study. Tyrance et al. (2013) used the Athletic identity Measurement Scale (AIMS) to determine the athletic identity of each participant. The Career Future Inventory (CFI) was utilized to explore career planning. Results found those with a stronger athletic identity were less prepared for future career plans. Gender was a significant variable predicting knowledge of a career. Results revealed males "believed they had a better understanding of the job market and employment trends more so than their female counterparts" (Tyrance & Harris, 2013, p.28). There were no differences found between race and sport. Additionally, the type of sport by race interaction was not significant.

Smallman and Sowa (1996) examined the readiness of male intercollegiate varsity athletes to make career-related decisions. The study compared athletes based upon sports generating revenue and nonrevenue to the University. Furthermore, the study examined race as a factor. They used the Career Development Inventory (CDI) (Super, Thompson, Lindeman, Jordaan, & Myers, 1981) and demographics as their primary measurement tools. The CDI outlines: career planning, career exploration, decision-making skills, and

world of work information. No significant differences were found between race or revenue and nonrevenue-based sports.

Although the study concluded race as an insignificant factor in determining career maturity, the current study will investigate Native American and Aboriginal retired student-athletes. The term Indigenous will be used at times when referring to these groups

### **Indigenous Inclusion**

Throughout the literature a significant lack and disregard to culture and race was evident. Cultural and racial considerations have the potential to create significant effects on retired student-athletes mental health following the conclusion of their athletic careers. Richard Lapchick's 2018 College Sport Racial and Gender Report Card, generated a variety of statistics during the 2016-2017 season, including ethnic and racial differences. Based on this data, the group displaying the highest percentage of student-athletes across Division I, II, and III sports were White males and females with 63.7% and 71% respectively. African American male and female student-athletes were 17.3% and 9.3% respectively. Latino male and Latina female student-athletes were 5.7% and 5.2% respectively. Asian/Pacific Islanders male and female student-athletes were 1.8% and 2.5% respectively. The group with the lowest number of student-athletes were Native American male and females both having a combined percentage of 0.4% (Lapchick, 2018.) This percentage represents the student-athletes that will comprise the focus of the current study. Lapchick's research was determined to bring awareness to underrepresented racial groups as well as including the resiliency factors required for student-athletes mental health. In addition to Lapchick's (2018) research focusing on

underrepresented racial groups, a few studies have been conducted regarding Indigenous student-athletes.

Hall (2013), Stronach, Maxwell, and Taylor (2016) suggested sport has historically been a fundamental strength to indigenous people's identity, yet there is little research highlighting their participation and transition at an elite level. Participation in sport has provided Indigenous people with a specific set of skills and protective factors to help them flourish. Native American people possess specific protective factors that are key to their cultural context, identity, adaptability, and perseverance. These protective factors serve as a means of healing both physically, mentally, and spiritually (Beals, Novins, Whitesell, Spicer, Mitchell, & Manson, 2005). Common protective factors to AI/NA's include Strong identification with culture, family, enduring spirit, connection with the past, traditional health practices (e.g., ceremonies), adaptability, and wisdom of elders. (Beals et al., 2005; Beals, Novins, Spicer, Whitesell, Mitchell, & Manson, 2006)

Stronach, Maxwell, and Taylor (2016) worked with Indigenous peoples in Australia to examine positive forces in sport. They identified sports as being a driving influence to rebuild community, prevent unhealthy and unsafe behaviors, reduce obesity, establish a career path if pursued at the highest level and serve as a possible pathway out of poverty. Despite sports participation as being a possible guiding factor out of poverty, it is important to note NA/AI continue to have the highest poverty rating of any race/ethnic group with approximately 26.6%. (The national poverty rate is 14.7%) (United States Census Bureau, 2017). It is encouraging to note researchers concluded, sport has the potential to enhance one's overall health, well-being as well as having the potential to create positive influences on others.

With a similar research focus, Cunningham and Beneforti (2005), explored the meaning of sport and the possible benefits for Indigenous people. Their research focused on Indigenous peoples in Australia and outlined sport influencing a variety of areas of social concern including crime, school attendance, substance abuse, self-harm, violence and social cohesion. In accordance with these findings, it is important to note approximately 2% of the U.S. population or 6.6 million Americans, self-identify as having American Indian/Alaska Native (AI/AN) heritage (United States Census Bureau, 2017). Despite the low percentage, research indicates AI/NA populations have drastically higher rates of mental health problems when compared with the rest of the US population (Heart, Chase, Elkins, Altschul, 2011). Some of these problems include, high rates of substance use disorders, posttraumatic stress disorder, suicide, and attachment disorders in numerous AI/NA communities. These problems have directly been linked to the intergenerational historical trauma, which was forced upon them. Trauma examples included Indigenous people being removed from their land, in addition to school aged students being required to attend government operated boarding schools, thereby separating AI/NA children from their parents, spiritual practices, and culture. Despite the many adversities AI/NA peoples face, they remain resilient. (Office of Minority Health, 2017)

Rossi (2015) investigated sport participation through a developmental lens perspective whereby results indicated Indigenous student-athletes competing in sport contributed to leadership, employment, volunteerism, and opportunities to connect with and learn from others.

Rossi's (2015) research is vital given that less than 1% of Indigenous student-athletes pursue sport past the secondary level either in the NCAA or CIS. The majority of Indigenous student-athletes leaving their reservations to pursue higher education and excel at a specific sport face adversity. It has been within a non-Aboriginal (Euro-Canadian) community, these student-athletes find themselves and, as such, face numerous acculturation challenges (Blodgett, Schinke, McGannon, Cholic, Enosse, Peltier and Pheasant, 2014). These challenges were assessed by Blodgett et al. (2014) and through transcribed interviews of 21 Aboriginal athletes, results indicated the student-athletes experienced culture shock, as well as feeling disconnected from their home. (Blodgett et al. 2014) Despite the challenges of academics, competing at an elite level and facing acculturation difficulties, Indigenous student-athletes persisted with a willingness to learn and develop.

It has been found traditional healing systems are important in the treatment of AI/NA communities. These systems focus on balancing mind, body, and spirit via a connection with place and land (Beals et al., 2005). Some AI/NA populations believe traditional-based healing practices have the potential to help address mental health care needs within their communities. Research demonstrates Indigenous men and women who meet criteria for depression/anxiety or substance use disorder are significantly more likely to seek help from traditional/spiritual healers than from other sources (Beals et al., 2005; Dickerson, Fisher, Reynolds, Baig, Napper, & Anglin, 2012) Within the sport participation context, research has demonstrated Indigenous people remain true to their cultural and spiritual connections when faced with adversity. Athletes consistently indicated they would spend time silently reflecting and engaging with their creator prior

to an important competition. One participant was firm when indicating “kids succeed when coached within the medicine wheel” (Ferguson, Epp, Wuttunee, Dunn, Mchugh, and Humbert (2018). P. 11).

Due to the limited research on holistic wellness among college student-athletes, Watson and Kissinger (2007) aimed to study the differences of wellness among college student-athletes and non-athletes using a between-groups design. It was predicted student-athletes, would have lower levels of wellness overall compared to non-athletes. Differences were studied by using the Five Factor Wellness Inventory (5F-Wel; Myers & Sweeney, 2004). With strong reliability, the 5F-Wel scores one single higher order factor of overall wellness, 5 second-order factors (Social Self, Essential Self, Creative Self, Physical self, and Coping Self), and 17 third-order factors signifying other areas may be able to predict wellness. Out of the 157 total undergraduate participants, five of those participants identified as Native American. Although this number is low, it is positive to find a study specifically outlining the number of Native American’s included within their total sample. Through statistical analysis, the reports displayed non-athletes having higher mean levels of wellness on 22 of the 23 factors examined, with physical wellness being the only factor the student-athletes scored higher on than the non-athletes. The Coping Self was the lowest scored factor among both of the groups studied. By using post hoc univariate *t* tests, it was found the student-athletes scored significantly lower than the non-athletes for the second-order factors of Social Self and Essential Self and the third-order factor of Love. Although the non-athletes scored significantly higher, the Social Self factor was highest when only looking at the student-athlete group. The Social Self was described in the study as having the ability to create long-lasting and strong

relationships, which also included love. The Essential Self was described as having “meaning and purpose in life” as well as focusing on their identity of themselves. It was interpreted as meaning for this significantly lower level for second-order factors could be due to the strenuous demands of student-athlete schedules not allowing time for opportunities to nourish specific wellness factors.

Research conducted by Ferguson et al. (2018). analyzed transcribed interviews by Indigenous women athletes. The athletes’ stories highlighted the necessity to receive community support in order to flourish in sport, but to also return support to one’s community. The women’s main language and that of which they spoke, was community. Community encompassed family, home community and sport community (Ferguson et al.2018) In this study a four-step phenomenological structural analysis was used. Emerging from the interviews was the strong theme of spirituality among the student-athletes. The possession of strong family and community connections have been identified as central to sport development. The inclusion of physical (e.g., physical activity and recreation) and cultural practices (e.g., traditional games and on the land activities) have been known to enhance student-athlete development (Kerpan and Humbert 2015; Paraschak and Thompson 2014)

Research has indicated indigenous people conceptualize sporting and health practices differently from the Eurocentric model. The Aboriginal model has remained constant throughout time and continues to be community-oriented including components which are culturally and spiritually meaningful (Bishop, 2005; Hanrahan, 2004; Kontos & Breland-Noble, 2002; Paraschak, 1997)

Indigenous student-athletes who possess a strong athletic identity combined with a strong cultural identity may be less likely to struggle with mental health symptoms during the transition phase.

### **Mental Health and Transition Out of Sport**

One in four Americans possess a diagnosable mental health disorder, most of which onset by age 24 (Kessler et al., 2005). When considering this statistic, college-athletes may have an additional risk factor to consider during the transition phase.

The literature focuses on the stigma behind seeking mental health treatment among college athletes. It outlines an athlete's willingness or not, to seek mental health treatment and whether or not being an athlete is a significant factor or not. Barnard (2016) focused on examining the views of seeking mental health treatment among college student-athletes and non-student-athletes. Additionally, athletic identity and gender were considered when examining the views towards seeking treatment for one's mental illness. This study differed from previous research in terms of differentiating between performance-related treatment and treatment of psychopathology in a more specific manner, regarding mental health issues. Differences between sports psychologists and therapists were also noted. The author examined views of mental illness without giving participants' cues on how they conceptualized mental health. College student-athletes and non-student-athletes were recruited from three schools: Division I public University, Division III college, and Division I private University. To operationalize the views, four separate scales were given to the participants to answer including: Devaluation-Discrimination Scale (Link, 1987; with revisions from Eisenberg et al., 2009; changing the wording of "mental patient" to "person who has received mental health treatment"), a



social distance scale (Martin, Pescosolido, & Tuch, 2000), the ATSPPHS, and the Athletic Identity Measurement Scale (AIMS; Brewer & Cornelius, 2001). The Devaluation-Discrimination Scale is a 12-item scale with statements relating to how individuals view mental illness overall. The Social Distance Scale measured the social distance a person displays toward someone with a mental illness. The Attitudes Towards Seeking Professional Psychological Help Scale (ATSPPHS) was used to measure the extent to which participants agree with statements relating to seeking help for mental health treatment. The Athletic Identity Measurement Scale (AIMS) helped measure athletic identity among the participants. It should be noted the sample size contained a high ratio of White participants to black participants, resulting in a study with little racial diversity. Contradicting the first part of the hypothesis, student-athletes did not score significantly different than non-athletes on exhibiting social distance towards people with a mental illness. Thus, there was not a negative perspective from student-athletes viewing those with a mental illness, which was previously expected. The second part of the hypothesis predicted student-athletes devaluing and discriminating toward mental illness more so than non-student-athletes. However, non-student-athletes were found to significantly devalue and discriminate mental illness more than student-athletes. The third part of the hypothesis expressed the non-student-athletes would be more willing to seek out help with mental health professionals. Once again, the results were not consistent with the hypothesis. There was not a significant difference between the two groups. Lastly, being a woman was a significant predictor in being more willing to seek mental health treatment. A limitation to the study was there were more women than men

in the study. Barnard's (2016) research with student-athletes and non-student-athletes has contributed to present views regarding mental illness and seeking professional help.

James Beauchemin (2014) conducted a study examining student-athlete's perceptions on mental health and the possible effects an integrative outreach model could have on their opinions. Beauchemin wanted to educate student-athletes about mental health, sport psychology principals and concepts, and then evaluate if the student's perceptions on seeking help and/or guidance changed. Student-athletes are a unique population who face added pressures, challenges and stressors which may lead to compromised well-being (Beauchemin, 2014). Aside from life's other stressors (i.e., school, family, and social life), athletic participation can become an additional stressor. Traditional college students do not experience this additional stress (Pinkerton et al., 1989) Research indicates between 10-15% of student-athletes have clinical needs significant enough to warrant counseling services (Watson, 2005). However, student athletes tend to possess a negative perception toward mental health services and do not believe they require these services. At times, student-athletes feel a sense of stardom and do not want to jeopardize their image by seeking support from a counselor, or mental health provider (Ferrante, et al., 1996).

Henschen (2005), designed a study which used an integrative outreach form in a classroom setting where information was shared via lecture, discussion, use of video and participation in exercises. There were two separate course sections available. One consisted of three 80-minute sessions whereas the other consisted of five 55-minute sessions. Within the information provided, the author outlined the critical aspect to the outreach model of the Five Cardinal Mental Skills of sports psychology: relaxation,

imagery, routines, self-talk, and concentration (Henschen, 2005). Secondary data was used in the form of self-report questionnaires given to the students at the end of the course. Questions from the survey focused on various aspects including student athletes' perceptions related to mental health, counseling, mental skills, performance enhancement as well as any feedback to the usefulness of the outreach provided or any additional feedback for future outreach. Participant information was limited due to the course prerequisite of having to possess student-athlete status. No other demographic information was provided. Part two of the study included qualitative interviews. Participants included ten student-athletes ranging in ages from 18-21. All of the student-athletes had previously participated in the 'part one class' of the study. Interviews were transcribed to determine emerging themes pertaining to the student-athletes perception of mental health following the course. Results suggested the outreach model was beneficial in addressing several domains related to college student's well-being and mental health awareness. The research outlined and emphasized the ongoing stigma associated with mental health and more specifically the stigma related to mental health and student-athletes.

Further research outlining mental health stigma comparing student-athletes and non-athletes within an NCAA Division I population was conducted. Ethnicity of the student-athlete population was as follows: White (68%), African American (20%), American Indian (1%), Hispanic, Latino or Spanish (4%) and other (7%) (Kaier, Cromer, Johnson, Strunk, & Davis, 2015). The study sought to examine the student-athletes and their counterparts perceived public stigma and their personal stigma regarding seeking mental health services. Data was collected through self-report surveys. The student-athlete

sample was collected after practice or following team meetings via paper surveys. The non-student athlete population sample was collected via an online survey. Results indicated college-student athletes underutilized psychological services despite potential mental health risks (Watson, 2006).

Eisenberg et al. (2009), found student-athletes reported greater perceived public stigma than personal stigma, thereby suggesting, student-athletes willingness to seek mental health services may be at risk. These studies extend the findings and outline student-athletes negative perceptions surrounding seeking mental health services despite, being at a greater risk for developing clinically significant mental health symptoms.

Demirel (2016) outlined a cross-sectional study determining individuals who were physically active, were three times less likely to suffer from depression than were inactive individuals. Additionally, it was found depressive symptoms decreased with increasing levels of physical activity. Furthermore, individuals who were more socially connected, reported less psychological distress, including depression and low self-esteem, more so than individuals who were less connected. These factors pose a number of interesting questions. What happens when an athletes Division 1 career comes to an end? What happens when the rigorous physical activity goes from daily to only a couple times per week or not at all? What happens when the influx of social connectedness suddenly drops to nothing and the stardom of playing at the Division 1 level comes to an end? Demirel (2016) found student-athletes compared to non-athletes reporting greater levels of depression and anxiety. The author hypothesized the increase of depressive and anxiety symptoms, may be due to three factors: (1) the fear of occupational forthcoming,

(2) ambiguousness in occupational career (3) physical or somatic stress associated with training programs of vigorous exercise (Demirel, 2016).

The primary purpose of a study conducted by Erpič et al. (2004) was to recognize if athletic or non-athletic constructs existed in determining the athletic career retirement route and if these affected the psychological, psychosocial, and occupational levels of an athlete. Using self-report measures, 85 male and female former elite Slovenian athletes were assessed. It was noted: retirement voluntariness, athletic identity, and sports achievements significantly affected the psychological difficulties experienced in an athletic career transition. Results of voluntariness of retirement, athletic identity, and evaluation of sport achievements showed statistically significant differences among occupational difficulties, organization of post-sports life, and difficulty of sports career termination (Erpič et al., 2004)

### **Contrary Findings**

Although the majority of the literature demonstrates adverse mental health side effects on student-athletes vs. non-student-athletes, there are studies demonstrating no difference between the two populations. Results from a study conducted on student-athletes vs non-student athletes indicated the overall physical and mental health of former collegiate athletes is similar to that of the general US population. Although college athletes experience numerous stressors, their mental health is not any lower or higher than someone who is a non-athlete. This study also found the mental health of former college student-athletes who have sustained career ending injuries, such as a severe

concussion, may be negatively affected and generally lower than the average former athlete (Kerr, DeFreese, & Marshall, 2014.)

Armstrong and Oomen-Early (2009) compared collegiate athletes and non-athletes to note differences in perceived levels of social connectedness, self-esteem, and depression. Participants were gathered from a Southern college and given self-report surveys. The survey packet included the Center for Epidemiologic Studies Depression Scale, the Rosenberg Self-Esteem Scale, and the Social Connectedness Scale-Revised. Results from this study indicated athletes had greater self-esteem and social connectedness along with lower levels of depression than non-athletes.

### **Current Study**

Several researchers have studied the challenges retired non-indigenous student-athletes face as they proceed through the transition phase following retirement from their athletic careers. Bjornsen and Dinkel (2017), suggest it is not an easy process. Outlined in the literature, student-athletes who strongly identify with their athletic identity were more likely to experience mental health symptoms during the transition (Erpic et al, 2004; Grove, Lavalley, & Gordon, 1997; Knights et al., 2016; Kerr & Dacyshyn, 2000). Consistently, mental health symptoms included feelings of depression (Blinde & Stratta, 1992), anxiety (Demirel, 2016), difficulty adjusting (Knights et al., 2016) while other student-athletes experienced an identity crisis due to strong athletic associations (Stout, 2018; & Lally, 2007). Researchers found those with stronger athletic identities, experienced greater psychosocial difficulties than those with weaker athletic identities (Stoltenberg, Kamphoff, and Lindstrom 2011). Warriner & Lavalley (2008) found

student-athletes had a difficult time coping during the transition phase and resorted to using maladaptive coping skills. Researchers concluded elite performance standards of division I college student-athletes conflict with the balance of one's mental health (Brohm, 1978; Martinlova, 2008; Whitehead and Senecal, 2019).

This study will focus more specifically on both Indigenous and non-Indigenous retired student-athletes. There is a significant lack of research targeting Indigenous athletes at an elite level, however researchers have indicated sport has historically provided fundamental strength to Indigenous peoples' identity (Stronach, Maxwell, and Taylor 2016). Other research conducted by Beals et al., (2005); Beals, Novins, Spicer, Whitesell, Mitchell, & Manson, (2006), indicates Indigenous people possess multiple strong identifications associated with culture, family, ceremonies and traditional healing practices. These identities may serve as factors in mitigating mental health symptoms during the transition when athletes discontinue their playing career. Torregrosa et al. (2015) determined possessing more than one personal identity may prove to be assistive during the transition phase. Similar to research conducted by Lapichick (2018), the current study will attempt to add to the literature regarding information pertaining to an underrepresented racial group, that of Indigenous retired student- athletes.

Due to a general lack of research and literature pertaining to elite Indigenous student-athletes, the current study will examine both Indigenous and non-indigenous retired college student-athlete's mental health, during the transition phase, considering one's respective ethnicity, athletic identity, cultural identity and coping skills. The study will compare Indigenous and non- Indigenous retired college student-athletes experience on several mental health symptoms during the transition phase. Specifically, retired

student-athletes will be asked to recall the transition period which is defined as: *The phase immediately following the conclusion of your eligibility status as a student-athlete* and report on athletic identity, mental health symptoms, and coping mechanisms. The transition phase as defined by the literature has a broad time frame ranging from 10 years (Álvarez et al., 2004) to 7.2 years (Lavalley & Robinson, 2007) post-graduation. The transition phase begins immediately following the conclusion of your eligibility status as a student-athletes and goes up to 10 years (Álvarez et al., 2004) for the purpose of this study.

### **Aims and Hypothesis**

The first aim of the study was to examine the relationship between retired Indigenous and non-Indigenous student-athletes and the degree to which they associated with their athletic identity and what potential affects athletic identity may have had on mental health symptoms. Specifically, it was hypothesized those who possess a strong athletic identity would have experienced mental health symptoms during the career transition period. Specific mental health symptoms included depression and anxiety.

The second aim of the study was to compare Indigenous and non-Indigenous students' participation in college athletics to determine if cultural association moderated the effects of mental health symptoms during the transition period. Specifically, it was hypothesized Indigenous and non-Indigenous student-athletes who strongly identified with their culture, would report less mental health symptoms than those who did not strongly identify with their culture, thereby experiencing an easier career transition, despite the degree to which they associated with their athletic identity. Regarding the less than 1% of participating Indigenous student-athletes (Rossi, 2015), it was hypothesized



they would possess a stronger sense of culture and family structure than non-Indigenous student-athletes, thereby providing them with effective coping skills and mental health supports, thus assisting them in managing career transition effectively.

The third and final aim of the study was to compare retired Indigenous and non-Indigenous student-athletes coping strategies and psychological symptoms experienced during the transition period. Given that Warriner and Lavalley (2008) identified student-athletes used maladaptive coping skills during the transition phase, this study extended this research while focusing on Indigenous athletes. It was hypothesized retired student-athletes would use maladaptive coping skills during the transition phase. Additionally, it was hypothesized they would experience a plethora of mental health symptoms during this time.

## **CHAPTER II**

### **METHODOLOGY**

#### **Participants**

One hundred retired student-athletes (Mean Age=27.6, SD=2.8) who varied in gender (Male=24 Female=76) participated in this study. Athletes varied by sport (i.e., Ice hockey, Cross-country and track and field, football, basketball, cheerleading, softball, badminton, baseball, swimming, volleyball, and soccer). Exclusion criteria included not completing eligibility status N=21 (i.e., not completed the required 4-5 years, reasons for not completing eligibility status were as follows: school obligations, early program completion, financial obligations and injury, not consenting to participation N=1, having

graduated longer than 10 years for the purposes of retrospective responding N=2, robot answers N=2, current Olympic athlete N=1, and too many incomplete items (i.e., 5+) N=8. Median numbers were obtained for participants who missed less than five questions N=10.

This study focused specifically on differences among Indigenous and non-Indigenous retired student-athletes. Participants self-identified as the following: Aboriginal peoples N=30, American Indian N= 19, White N=49, Other (i.e., Filipino and Hispanic) N=2.

Participants were recruited through social media (i.e., Instagram and Facebook), word of mouth, and by posters created by the Manitoba Aboriginal Sport & Recreation Council. A national sample was sought through Amazon's Mechanical Turk, however, due to the specific population, there were no participants obtained from this source.

### **Measures**

Participants completed an initial demographics questionnaire measuring age, gender, ethnicity, retirement status, graduation time, division, sport, and if participants played their respective sport past the collegiate level. In addition, participants were asked about their current employment status and asked to rate their overall college athletic experience ranging from *positive, neutral, or negative* and then asked to explain the rationale for responding. This question assesses other possible factors during the transition phase. Bjornsen and Dinkel (2017) found student-athletes experienced a more difficult time during the transition phase when their coach did not prepare or support them during this phase.

Two questions addressed retired student-athlete's eligibility to participate in the study.

1) Did you complete your eligibility status as a student-athlete (4 years for NCAA, 4-5 years for CIS)

2) Participants who answered 'No' to the above question were asked to list the reason including Injury, personal, or other. Twenty-one individuals did not meet the eligibility criteria and thus were not included in the data analysis.

### **Athletic Identity Measurement Scale (AIMS)**

The degree to which athletes relate to their athletic identity was assessed using the 10-item, highly reliable, Athletic Identity Measurement Scale (AIMS) (Brewer & Cornelius, 2001). The items on the AIMS incorporate social, cognitive, and affective elements of athletic identity. Items on the scale are rated on a 7-point scale (1 = Strongly Agree, 2 = Agree, 3 = Agree Somewhat, 4 = Neither Agree nor Disagree, 5 = Disagree Somewhat, 6 = Disagree, 7 = Strongly Disagree). Higher scores indicate higher athletic identity, and consequently lower scores indicate lower athletic identity. The AIMS has three subscales including social identity, exclusivity, and negative affectivity. The test re-test reliability coefficient was .89 ( $r=.89$ ), and the Cronbach's alpha score was .93, which according to researchers indicate the stability of the scores and provide support for the scale's psychometric reliability. See Appendix A.

### **American Indian Bicultural Inventory (AIBI)**

The American Indian Bicultural Inventory was utilized to assess the degree to which Indigenous and non-Indigenous participants identify with their culture. The AIBI-NP was a revised version of the NPBI developed by Alan and French (1992). The AIBI-NP has two subscales: American Indian cultural identification (AICI) and European American cultural identification (EACI). It consists of four levels of cultural orientation

including: traditional, assimilated, bicultural, and marginalized. Individuals who identify as traditional have a high level of AICI and low level of EACI. Those who identify as assimilated have a low level of AICI and high level of EACI. Bicultural individuals have a high level of both AICI and EACI. Marginalized individuals have a low level of both AICI and EACI. The AIBI-NP is a 23-item questionnaire on a scale 1 (no comfort) to 4 (complete comfort). Prior research supports convergent validity with the NPBI ( $p > .05$ ) along with internal consistency ( $r = .89$ ) for AIBI-NP subscales, and alternate-forms reliability with the NPBI ( $p < .01$ ) (McDonald et al., 2015). For the purpose of this research both groups, Indigenous and non-Indigenous, will be assessed on both subscales (AICI & EACI). See Appendix B.

### **Brief COPE**

The brief COPE was developed as a shortened version of the original 60-item COPE scale (Carver et al., 1989). The cope was initially validated on a 168-participant community sample who were impacted by a hurricane (Carver, 1997) and demonstrated adequate factor structure. The Brief COPE is a 28 item, self-report questionnaire, designed to measure the ways in which people cope with stressful life events. “Coping” is defined broadly as an effort used to minimize distress associated with a negative life experience. The brief COPE is psychometrically sound with a Cronbach’s alpha of 0.70 indicating good consistency among the items. The alphas for the 14 sub-scales range from 0.44 to 0.89, with the lowest alpha for the behavioral disengagement subscale and the highest for the substance use subscale (Mohanraj, Jeyaseelan, Kumar, Mani, Rao, Murray, & Manhart, 2014). Retired student-athletes were asked to recall hardships they may have experienced during their transition period. The Brief COPE outlines both

effective and ineffective ways of coping with stressful life events. Participants were asked to rate items on a 4-point scale with four response options: 1) *I usually don't do this at all*; 2) *I usually do this a little bit*; 3) *I usually do this a medium amount*; 4) *I usually do this a lot*, with higher scores indicating greater use of a specific coping strategy. The first 8 scales (*active coping, planning, positive reframing, acceptance, humor, religion, use of emotional support, use of instrumental support*) were grouped together as adaptive coping strategies, and the latter 6 scales (*self-distraction, denial, venting, substance use, behavioral disengagement, and self-blame*) were considered maladaptive coping strategies (Meyer, 2001; Lehavot, 2012). Emerging from the assessment are two different coping styles that were used to categorize the retired student-athletes into Approach Coping or Avoidant Coping styles (Carver, C.S., 1997, Carver, Scheier, & Weintraub 1989, Eisenberg, Shen, & Schwarz 2012). The subscales of the brief COPE include self-distraction, active coping, denial, substance use, use of emotional support, use of support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame. See Appendix C.

### **Symptom Checklist-90 Revised (SCL-90-R)**

The SCL-90-R is designed to measure a wide array of psychological symptoms. The SCL-90-R is an established instrument developed by Leonard R. Derogatis and has over 1,000 independent studies supporting its reliability and validity. The internal consistency coefficient rating ranged from 0.90 for depression and 0.77 for psychoticism. Test-retest reliability had been reported at 0.80 to 0.90 within a one-week interval and a cronbach's alpha of .70 (Derogatis, 1992) The SCL-90-R evaluates nine symptomatic dimensions subscales: somatization, obsessive-compulsive disorder, interpersonal

sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism (Derogatis, 1992). It is one of the most widely used measures of psychological distress in clinical practice and research. Participants were asked to rate items using a 5-point scale with response options consisting of: 0) *Not at all*, 1) *A little bit*, 2) *Moderately*, 3) *Quite a bit*, 4) *Extremely*. Retired student-athletes will be asked to complete this questionnaire according to the retrospective transition period. See Appendix D.

### **Procedures**

Once former retired student-athletes were deemed eligible to participate in the study, they completed the online Qualtrics survey, which included: demographics, the AIMS, the AIBI, the Brief COPE, and the SCL-90-R. Participant's electronic agreement was required indicating the individual's voluntary consent to participate in the study. Informed consent forms were read and agreed upon by checking a 'Yes' box prior to survey administration.

Participants were required to fill out the online survey. Time spent on the questionnaires was approximately 20-25 minutes. Participants were instructed to ask any questions prior to the commencement of the study. Lastly, participants were compensated for their participation with \$5 via Venmo or PayPal transactions or were entered to win 1 of 6, \$50 Amazon gift cards.

All participants information remains anonymous and confidential. The informed consent forms were developed according to the guidelines of the University of North Dakota Institutional Review Board (IRB).

## **Data Analysis**

The statistical software being employed is the Statistical Package for the Social Sciences (SPSS). Descriptive statistics included group means and standard deviations. Two data analytic techniques were employed. The first analysis consisted of a 2 (cultural identity) x 2 (ethnicity) between subjects' analysis of variance (ANOVA) and a 2 (cultural identity) x 2 (ethnicity) analysis of covariance (ANCOVA) with athletic identity and time since retirement as covariates.

The second analysis administered was a multiple regression. The multiple regression investigated the interaction between athletic identity (IV), cultural identity (IV), time (IV), and ethnicity (IV) on mental health symptoms (DV) during the transition phase.

The third analysis being carried out is a multiple regression. The multiple regression investigated the interaction between athletic identity (IV), cultural identity (IV), time (IV), ethnicity (IV), mental health symptoms (IV), and coping skills (DV) during the transition phase.

## **CHAPTER III**

### **RESULTS**

#### **Demographics**

A total of 135 participants were gathered. For the sake of clarity, participants will be referred to as student-athletes. Once the exclusion criteria was accounted for, 100

student-athletes were included in the final analysis. Student-athletes varied in age (*mean* =27.6, *SD* =2.8) and gender (male=24 female=76). Student-athletes varied by sport (i.e., ice hockey, cross-country, track and field, football, basketball, cheerleading, softball, badminton, baseball, swimming, volleyball, and soccer).

Exclusion criteria included not completing eligibility status (N=21) (i.e., not completing the required 4-5 years of play). Reasons for not completing eligibility status were as follows: school obligations, early program completion, financial obligations, and injury. Further exclusion criteria included not consenting to participate in the study resulting in removal from the analysis (N=1), graduated longer than 10 years for the purposes of retrospective responding (N=2) robot answers (N=2), current Olympic athletes (N=2), and too many incomplete items (i.e., 5+, N=8). Median numbers were obtained for participants who missed less than five questions (N=10).

This study focused on differences between Indigenous and non-Indigenous retired student-athletes in terms of their mental health symptoms, coping skills and cultural identity during the transition phase. Student-athletes self-identified as the following: Aboriginal peoples N=32, American Indian N= 19, White N=49, Other (i.e., Filipino and Hispanic) N=2. The 'other' category was excluded from the analysis.

Dependent variables in the regression included: overall mental health symptoms, depression, and anxiety symptoms, as well as athletic identity and coping styles of retired student-athletes during the transition phase. The means, standard deviations and ranges are presented below for the predictor variables and the dependent variables (Table 1). Complete data were available for 100 student-athletes. For each analysis, the following indices were calculated: unstandardized regression coefficient indicating the amount of



change in the criterion variable that occurs for each unit change in the predictor. Standardized regression coefficient indicating the amount of a standard deviation (SD) change in the criterion variable that occurs for each SD change in the predictor and part correlation squared indicating the percent of variance uniquely accounted for by the predictor. Collinearity measures were calculated. No factors had significant collinearity that would exclude them from the analysis.

A series of multiple regression analyses were computed using athletic identity and cultural identity. Both American Indian cultural identity (AICI) and European American cultural identity (EACI) combined with time since graduation scores, were the predictor variables. The AICI and EACI scores were derived from the American Indian Bicultural Inventory- Northern Plains (AIBI-NP) (McDonald et al., 2015). Mental health symptoms and coping skill scores were used as the dependent variables. Mental health symptoms were represented by the Global Severity Index (GSI). An overall measurement of psychological distress was calculated using the SCL-90-R (Derogatis & Lazarus, 1994). Past research denoted symptoms of anxiety and depression being the most prominent symptoms during the transition phase (Erpic et al., 2004; Grove, Lavalley, & Gordon, 1997; Knights et al., 2016). Thus, anxiety and depression subscales computed from the SCL-90-R were also used as dependent variables. Lastly, coping styles were examined using the 28-item Brief Cope (Carver et al., 1989). The Brief Cope is divided into two different coping styles: approach and avoidant. The Brief Cope is used to determine how people respond when they are confronted with difficult or stressful life events (Carver et al., 1989). The approach style is associated with effective, more adaptive ways of coping during stressful life situations (i.e., positive reframing, planning,

acceptance, seeking emotional support and seeking informational support) whereas avoidant coping styles are associated with decreased effectiveness in managing anxiety symptoms during stressful life events (i.e., substance use, venting, behavioral disengagement, self-distraction and self-blame).

### **Interactions**

A multiple regression analyses was conducted investigating whether athletic identity, time since athletic transition and cultural identity could significantly predict anxiety symptoms in retired student athletes. The model was a significant predictor of anxiety symptoms,  $F(4,95) = 3.835, p < .05$  with an  $R^2$  of 10.3 (see Table 2). While athletic identity contributed significantly to the model ( $\beta = -.512, p < .05$ ), time since athletic transition ( $\beta = -.592, p = .283$ ) and culture, both AICI ( $\beta = .300, p = .058$ ) and EACI ( $\beta = .330, p = .345$ ) did not.

Specifically, as retired student-athletes strongly identified with their athletic identities, they reported less anxiety symptoms during the transition phase. Results were similar when examining differences between non-Indigenous and Indigenous student-athletes.

A multiple regression investigated whether athletic identity, culture and time since athletic transition, would significantly predict student-athletes mental health symptoms based on their responses from the SCL-90-R during the transition phase. Specifically, the Global Severity Index (GSI) scores comprised an overall measurement of psychological distress. The model was a significant predictor of mental health symptoms  $F(4, 95) = 3.826, p < .01$  with an  $R^2$  of .10.2 (See Table 2). While athletic

identity contributed significantly to the model ( $\beta = -.569, p < .01$ ), time since athletic transition ( $\beta = -.217, p = .711$ ), and cultural identity AICI ( $\beta = .331, p = .050$ ) and EACI ( $B = .394, p = .291$ ) did not. Thus, as retired student-athletes highly identified with their athletic identities, they reported less mental health symptoms during the transition phase. Results were similar when examining the differences between non-Indigenous and Indigenous student-athletes.

A multiple regression investigated whether athletic identity, culture and time since athletic transition could significantly predict student-athletes' depressive symptoms during the transition phase. The model was a significant predictor of depressive symptoms  $F(4,95) = 3.008, p < .05$  with an  $R^2$  of 7.5 (See Table 2). While athletic identity contributed significantly to the model ( $\beta = -.458, p < .05$ ), time since athletic transition ( $\beta = -.051, p = .922$ ), and cultural identity AICI ( $\beta = .220, p = .139$ ), EACI ( $\beta = .350, p = .287$ ) did not. Thus, as retired student athletes highly identified with their athletic identities, they reported fewer depressive symptoms during the transition phase. Results were similar when examining differences between non-Indigenous and Indigenous student-athletes.

A multiple regression investigated whether mental health symptoms, culture, athletic identity and time since athletic transition would significantly predict student-athletes avoidant coping styles during the transition phase. The Brief Cope suggests two different coping styles including avoidant coping (maladaptive) and approach coping (adaptive). Higher scores on the approach coping subscales indicate effective coping styles whereas higher scores on the avoidant coping subscales indicate ineffective coping

styles. The model was a significant predictor of maladaptive coping styles (avoidant)  $F(5, 94) = 35.709, p < .05$  with an  $R^2$  of .637 (See Table 3) Significant contributing factors to the model included EACI ( $\beta = .295, p < .05$ ), time since transition ( $\beta = .432, p < .05$ ), athletic identity ( $\beta = -.123, p < .05$ ) and mental health symptoms ( $\beta = .388, p < .01$ ), whereas AICI did not contribute to avoidant coping styles ( $\beta = .060, p = .307$ ).

Specifically, as retired student-athletes EACI increased, so did their avoidant coping styles. As retired student-athlete's mental health symptoms increased, so did their avoidant coping styles. Additionally, as time since retirement increased, so did retired student-athlete's willingness to report their avoidant coping styles during the transition phase. Lastly, as the strength of student-athletes athletic identities decreased, their avoidant coping styles increased.

Further, multiple regression investigated differences between non-Indigenous and Indigenous retired student-athletes', results differed. Specifically, for non-Indigenous student-athletes, the model was a significant predictor of maladaptive coping styles (avoidant)  $F(5, 45) = 15.958, p < .05$  with an  $R^2$  of .639 (See Table 5) Significant contributing factors to the model included athletic identity ( $\beta = -.205, p < .05$ ), mental health symptoms ( $\beta = .627, p < .05$ ) and EACI ( $\beta = .196, p < .05$ ), whereas time since transition ( $\beta = .087, p = .370$ ) and AICI ( $\beta = .080, p = .387$ ) did not. Specifically, as retired non-Indigenous student-athletes EACI and overall mental health symptoms increased so did their avoidant coping styles. An inverse relationship was significant when retired non-Indigenous student-athlete's athletic identity decreased, their avoidant coping styles increased. When examining retired Indigenous student-athletes, the model was a

significant predictor of maladaptive coping styles  $F(5, 44) = 20.071, p < .05$  with an  $R^2$  of .695 (See Table 5). Significant contributing factors to the model included mental health symptoms ( $\beta = .794, p < .05$ ), whereas athletic identity ( $\beta = -.036, p = .688$ ), time since transition ( $\beta = .093, p = .370$ ), and both EACI ( $\beta = .053, p = .628$ ) and AICI ( $\beta = .024, p = .820$ ) did not. Specifically, as retired Indigenous student-athletes mental health symptoms increased so did their avoidant coping styles.

A multiple regression investigated whether mental health symptoms, culture, athletic identity and time since athletic transition would significantly predict student-athletes adaptive coping styles (approach cope) during the transition phase. The model, which included, time ( $\beta = .077, p = .799$ ), AICI ( $\beta = -.042, p = .638$ ), EACI ( $\beta = .315, p = .106$ ), athletic identity ( $\beta = .041, p = .638$ ), and mental health symptoms ( $\beta = .058, p = .274$ ) was not a significant predictor of adaptive coping styles. (See Table 3.)

Further, multiple regression investigated differences between non-Indigenous and Indigenous retired student-athletes', results differed. While the model produced no significant results with the non-Indigenous student-athletes, the model was a significant predictor of adaptive coping styles of Indigenous student-athletes.  $F(5, 44) = 1.367, p < .05$  with an  $R^2$  of .134 (see Table 5). While overall mental health symptoms contributed significantly to the model ( $\beta = .335, p < .05$ ), time since athletic transition ( $\beta = .007, p = .969$ ), athletic identity ( $\beta = .124, p = .419$ ) and culture both AICI ( $\beta = .021, p = .903$ ) and EACI ( $\beta = .194, p = .298$ ) did not. Specifically, as retired Indigenous student-athletes mental health symptoms increased, so did their adaptive coping styles.

In the following analyses of variance, ethnicity was split into two groups: non-Indigenous and Indigenous student-athletes. Cultural identification was determined through AIBI-NP scores. Scores greater than or equal to 40 on the AICI scale classified Indigenous peoples as having a greater Indigenous cultural identification (i.e., traditional Indigenous medicines and ceremonies, speaking an Indigenous language, belief in creation stories, and strongly identifying with Indigenous culture and tradition). Scores less than 40 on the AICI scales were classified as low Indigenous cultural identification. Scores greater than or equal to 25 on the EACI scales were considered high European cultural identification (i.e., Western medicine, Christian religious ceremonies, talking about White news and culture and the importance of one's European heritage and history). Scores less than 25 on the EACI scales were classified as low European cultural identification. Correlations coefficients between variables are shown in Tables 7-9.

A series of 2 (Ethnicity) x 2 (Cultural Identification) factorial analysis of variance (ANOVAs), were conducted on the SCL-90-R's depression, anxiety, global severity index combined with coping styles (approach and avoidance) and athletic identity. The means and standard deviations for these measures are presented in Table 6. The analysis revealed no significant effects on any of the dependent variables examined.

Table 1. *Descriptive Statistics for Study Variables by Ethnic Group*

	Indigenous Peoples			Non-Indigenous		
	Mean	SD	Range	Mean	SD	Range
<i>SCL-90-R</i>						
GSITSCORE	55.96	14.26	33-80	56.16	13.97	33-80
DEPTSCORE	58.17	11.98	37-80	58.37	12.31	37-80
ANXTSCORE	54.92	13.63	37-80	54.76	12.91	37-80
<i>Brief Cope</i>						
AVOIDCOPE	22.17	7.66	12-44	24.12	7.40	13-46
APPROACH	29.04	6.32	13-41	32.22	6.87	13-48
<i>AIBI</i>						
AICISUM	34.25	8.67	19-51	20.98	5.54	14-42
EACISUM	23.27	4.00	16-30	27.02	4.08	19-35
<i>Athletic Identity</i>						
AIMSSUM	25.65	9.57	11-58	22.61	7.44	10-42
TIME	4.17	2.49	00-10	4.85	2.79	1-10

Note.  $N = 100$  ( $n = 51$  Indigenous,  $n = 49$  Non-Indigenous) Brief cope scores range from 12-48. With higher scores indicating the degree student-athletes identified with the two coping styles (i.e., approach coping or avoidant coping). Athletic identity scores range from 10-70. Higher scores are indicative of a stronger identification as an athlete. SCL-90-R T-score norms (mean= 50 SD=10).

Table 2. *Effects of cultural identity, athletic identity, and time since graduation on retired student-athletes mental health symptoms (i.e., anxiety, depression, and an overall measure) during the transition phase.*

TOTAL SAMPLE				
Variables	$\beta$	t	p	Part $r^2$
<b>ANXTSCORE</b>				
AICISUM	.223	1.920	.058	.010
EACISUM	.110	.950	.345	.001
TIME	-.106	-1.081	.283	.011
AIMSSUM	-.334	-3.461	.001	.108
<b>GSITSCORE</b>				
AICISUM	.230	1.984	.050	.036
EACISUM	.123	1.061	.291	.010
TIME	-.036	-.371	.711	.001
AIMSSUM	-.348	-.348	.000	.118
<b>DEPTSCORE</b>				
AICISUM	.176	1.493	.139	.000
EACISUM	.126	1.070	.287	.011
TIME	-.010	-.098	.922	.000
AIMSSUM	-.322	-3.293	.001	.101

Table 3. *Effects of cultural identity, athletic identity, mental health symptoms and time since graduation on retired student-athletes coping styles (i.e., avoidant and approach) during the transition phase.*

Variables	$\beta$	t	p	Part $r^2$
<b>AVOID</b>				
AICISUM	.077	1.028	.307	.004
EACISUM	.172	2.310	.023	.019
TIME	.135	2.159	.033	.017
AIMSSUM	-.140	-2.134	.035	.017
GSITSCORE	.722	11.058	.000	.449
<b>APPROACH</b>				
AICISUM	-.058	-.472	.638	.000
EACISUM	.199	1.630	.106	.026
TIME	.026	.256	.799	.000
AIMSSUM	.051	.472	.638	.002
GSITSCORE	.118	1.101	.274	.012



Table 4. *Effects of cultural identity, athletic identity, and time since graduation on mental health symptoms (i.e., anxiety, depression, and an overall measure) in Indigenous and non-Indigenous retired student-athletes during the transition phase.*

<b>Non-Indigenous</b>						<b>Indigenous</b>					
<b>Anxiety</b>											
Variables	$\beta$	t	p	Part $r^2$	N	Variables	$\beta$	t	p	Part $r^2$	N
AICISUM	.259	1.900	.064	.066	49	AICISUM	.274	1.695	.097	.051	51
EACISUM	.033	.235	.815	.001	49	EACISUM	.200	1.149	.256	.023	51
TIME	-.099	-2.170	.503	.008	49	TIME	-.058	-.352	.727	.002	51
AIMSSUM	-.306	-.676	.035	.087	49	AIMSSUM	-.364	-2.717	.009	.131	51
<b>GSI</b>											
Variables	$\beta$	t	p	Part $r^2$	N	Variables	$\beta$	t	p	Part $r^2$	N
AICISUM	.213	1.564	.125	.045	49	AICISUM	.235	1.442	.156	.037	51
EACISUM	.127	.896	.375	.014	49	EACISUM	.082	.469	.642	.003	51
TIME	-.011	-.079	.938	.000	49	TIME	-.003	-.019	.985	.000	51
AIMSSUM	-.309	-2.191	.034	.088	49	AIMSSUM	-.362	-2.676	.010	.129	51
<b>DEP</b>											
Variables	$\beta$	t	p	Part $r^2$	N	Variables	$\beta$	t	p	Part $r^2$	N
AICISUM	.121	.867	.391	.014	49	AICISUM	.137	.839	.406	.012	51
EACISUM	.179	1.242	.221	.029	49	EACISUM	.033	.188	.851	.000	51
TIME	-.070	-.472	.639	.004	49	TIME	.109	.657	.515	.007	51
AIMSSUM	-.285	-1.980	.054	.075	49	AIMSSUM	-.362	-2.668	.011	.129	51

Table 5. *Effects of cultural identity, athletic identity, mental health symptoms and time since graduation on coping styles (i.e., avoidant and approach) in Indigenous and non-Indigenous retired student-athletes during the transition phase.*

<b>Non-Indigenous</b>						<b>Indigenous</b>					
<b>APPROACH</b>											
Variables	$\beta$	t	p	Part $r^2$	N	Variables	$\beta$	t	p	Part $r^2$	N
AICISUM	.144	.968	.338	.019	49	AICISUM	.021	.123	.903	.000	51
EACISUM	.161	1.064	.293	.023	49	EACISUM	.194	1.053	.298	.021	51
TIME	.101	.654	.516	.008	49	TIME	.007	.039	.969	.000	51
AIMSSUM	.056	.360	.721	.002	49	AIMSSUM	.124	.816	.419	.012	51
GSITEE	-.112	-.714	.479	.010	49	GSITEE	.335	2.157	.037	.091	51
<b>AVOID</b>											
Variables	$\beta$	t	p	Part $r^2$	N	Variables	$\beta$	t	p	Part $r^2$	N
AICISUM	.080	.873	.387	.006	49	AICISUM	.024	.229	.820	.000	51
EACISUM	.196	2.087	.043	.034	49	EACISUM	.053	.488	.628	.001	51
TIME	.087	.905	.370	.006	49	TIME	.093	.905	.370	.005	51
AIMSSUM	-.205	-2.100	.041	.035	49	AIMSSUM	-.036	-.404	.688	.001	51
GSITEE	.627	6.453	.000	.334	49	GSITEE	.794	8.604	.000	.512	51

Table 6. *Levels of mental health symptoms by cultural identification and ethnicity*

Identification	High Cultural Identification		Low Cultural	
	MEAN	SD	MEAN	SD
<b>SCL-90-R GSI</b>				
Indigenous	57.32	15.39	53.47	11.95
Non-Indigenous	58.06	14.50	51.43	11.71
<b>SCL-90-R DEP</b>				
Indigenous	58.77	12.77	57.06	10.66
Non-Indigenous	60.46	11.78	53.14	12.46
<b>SCL-90-R ANX</b>				
Indigenous	56.16	14.95	52.65	10.86
Non-Indigenous	55.86	13.72	52.00	10.58
<b>APPROACH</b>				
<b>COPE</b>				
Indigenous	29.68	6.33	27.88	6.31
Non-Indigenous	33.03	7.21	30.21	5.69
<b>AVOID COPE</b>				
Indigenous	22.87	8.26	20.88	6.46
Non-Indigenous	25.11	7.60	21.64	6.48
<b>AIMS</b>				
Indigenous	25.87	10.07	25.24	8.88
Non-Indigenous	23.43	7.15	20.57	8.05

Table 7. *Correlations for total sample*

Variable	1	2	3	4	5	6	7	8	9
<b>1. ANX</b>	1.000	.854**	.867**	-.013	.554**	-.147	-.063	.311*	-.101
<b>2. DEP</b>		1.000	.920**	-.104	.704**	-.198	-.002	.183	.013
<b>3. GSI</b>			1.000	-.153	.685**	-.168	.037	.220	-.012
<b>4. APPRO</b>				1.000	-.024	.069	.089	.101	.170
<b>5. AVOID</b>					1.000	-.450**	.289*	.197	.280
<b>6. AIMS</b>						1.000	-.245	.006	-.003
<b>7. TIME</b>							1.000	-.004	.271
<b>8. AICI</b>								1.000	-.070
<b>9. EACI</b>									1.000

\*\* Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed)

Table 8. *Correlations for Indigenous student-athletes*

Variable	1	2	3	4	5	6	7	8	9
<b>1. ANX</b>	1.000	.865**	.920**	.061	.715**	-.303**	-.112	.130	-.025
<b>2. DEP</b>		1.000	.939**	.086	.744**	-.301**	-.004	.060	.038
<b>3. GSI</b>			1.000	.094	.770**	-.318**	-.040	.117	.000
<b>4. APPRO</b>				1.000	.110	-.003	.077	-.152	.236*
<b>5. AVOID</b>					1.000	-.366**	.135	.023	.165
<b>6. AIMS</b>						1.000	-.020	.147	-.037
<b>7. TIME</b>							1.000	-.171	.232*
<b>8. AICI</b>								1.000	-.555**
<b>9. EACI</b>									1.000

\*\* Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed)

Table 9. *Correlations for Non-Indigenous student-athletes*

Variable	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
<b>1. ANX</b>	1.000	.888**	.910**	.085	.714**	-.248	-.179	.259	-.165
<b>2. DEP</b>		1.000	.938**	.076	.766**	-.357*	-.138	.061	-.106
<b>3. GSI</b>			1.000	.104	.703**	-.294*	-.170	.128	-.131
<b>4. APPRO</b>				1.000	.116	.077	.037	-.026	.099
<b>5. AVOID</b>					1.000	-.291*	.033	.136	-.054
<b>6. AIMS</b>						1.000	.180	.024	.110
<b>7. TIME</b>							1.000	-.182	.156
<b>8. AICI</b>								1.000	-.624**
<b>9. EACI</b>									1.000

\*\* Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed)

## **CHAPTER IV**

### **DISCUSSION**

This study examined Indigenous and non-Indigenous retired student-athletes mental health symptoms, coping skills and cultural identity during the transition phase. The goal was to investigate and better understand participant's mental health struggles and challenges during the transition phase. Additionally, the study's aim was to create an awareness and understanding of Indigenous student-athletes, who comprise less than 1% of student-athletes participating in collegiate athletics.

The transition phase was defined as the time in which former student-athletes no longer play their respective sport at the collegiate level, have graduated, or otherwise moved onto the next phase of their lives. Research regarding the transition phase has suggested adverse mental health experiences become evident. Comparisons between Indigenous and non-Indigenous student-athletes were made to determine if cultural identity played a role in mitigating mental health symptoms and/or coping mechanisms.

Contrary to past research by Chang, Wu, Kuo and Chen (2018), suggesting high athletic identity leads to higher emotional exhaustion, lower psychological flexibility and an increase in mental health symptoms, the current study's results indicate, as retired student-athletes' athletic identity increased, their mental health symptoms decreased. Their results also indicated increased athletic identity contributed to a reduction in anxiety and depressive symptoms in both Indigenous and non-Indigenous student-athletes. Due to the high correlation between anxiety, depression and the global severity index, which is calculated using the highly reliable SCL-90-R, the term mental health symptoms will encompass depression, anxiety and GSI.

Athletic identity was defined as the degree to which the retired student-athletes identified with their role as an athlete and looked to others for acknowledgment of that role. Contrary to previous research between athletic identity and an increase in mental health symptoms, these results revealed the latter, rather demonstrating a positive correlation between athletic identity and mental health symptoms. Specifically, student-athletes who possessed a strong athletic identity reported less mental health symptoms during the transition phase. More specifically, athletic identity was a slightly stronger predictor for less mental health symptoms in Indigenous student-athletes when compared to non-Indigenous student-athletes.

Despite the findings of previous research affirming athletic identity leads to an increase in mental health symptoms, this study demonstrates athletic identity may mitigate mental health symptoms. A plausible explanation derived from previous research indicates those who are more physically active report less depression and anxiety related symptoms. However, athletic identity is not solely related to fitness. It is a state of being and a feeling of where one 'belongs' and to what group one identifies with. Thus, the explanation may be better explained by the inclusion of Indigenous participants and the importance athletic identity and sport has on their culture and community.

Contrary to the aforementioned, Grover et al., (1997) suggested stronger association with athletic identity correlated with greater maladaptive coping strategies and more difficulty during the transition phase. This study replicated those findings. Specifically, non-Indigenous student-athletes possessed a stronger athletic identity correlated with an increase in maladaptive coping skills. Results were dissimilar for Indigenous student-athletes.



Previous research failed to consider culture as a factor during the transition phase. Results demonstrated a significant cultural component, including both Indigenous and non-Indigenous participants who identified with a more European identity, led to an increase in avoidant coping styles (i.e., *substance use, venting, behavioral disengagement, self-distraction and self-blame*) during the transition phase when compared with Indigenous student-athletes who highly identified with AICI. Important to note, the effect sizes were small and on the border of significance. Consequently, as those student-athlete's mental health symptoms increased, so did their avoidant coping styles. These results are consistent with previous research. A difference within the research found, retired student-athletes were less likely to report maladaptive coping skills if they had recently graduated. This may be attributed to retired student-athletes having had more time and life experience to reflect on the transition phase, only to realize some of the coping skills they were using at the time, were maladaptive.

This study was not a significant predictor when examining mental health symptoms and approach coping styles. However, when split into Indigenous and non-Indigenous student athletes', significant results were found. Consistent with the second hypothesis, culture did prove to be a significant factor in promoting adaptive coping styles (i.e., *active coping, planning, positive reframing, acceptance, humor, religion, use of emotional support, use of instrumental support*) for Indigenous student-athletes who were experiencing mental health symptoms during the transition phase. The implication of these results may have significant benefit and effects on Indigenous communities in highlighting their ability to utilize these adaptive coping skills during difficult times.

Generally, results did not indicate time as a significant factor, however one analysis revealed, as time since retirement increased, so did a student-athlete's willingness to report their avoidant coping styles used during the transition phase. These findings continue to support the premise that student-athletes require assistance during the transition phase. Student-athletes continue to experience mental health symptoms to some degree during this time, despite being able to admit this in the moment or up to 10 years later. Student-athletes are often lacking coping, planning and readiness skills which are required for the transition phase. Seemingly, student-athletes require additional support during the transition phase to assist in decreasing mental health symptoms while learning coping strategies.

The inclusion of Indigenous student-athletes in this study, despite the bleak 1% statistic of those who ascend to the collegiate level, was an important consideration. Thus, special consideration regarding the thoughts of Indigenous student-athletes through means of storytelling has been provided. This writer acknowledges story telling *was not* an official segment of the research, however, Indigenous student-athletes shared their stories through social media communications and anonymous text boxes within the survey. The anecdotal text below was gathered from Indigenous student-athletes during the data collection. After consultation and consideration with a Native American Elder on how to best convey the struggle's Indigenous student-athletes faced during the transition phase, the consensus was to relay their stories verbatim (J.D. McDonald, personal communication, May 17, 2021). This was done to further understand and comprehend the challenges Indigenous student-athletes faced upon reflection during the transition phase.

Retired student-athletes were asked to rate their experiences ranging from positive, neutral or negative and were then given an option to provide context. Approximately 25% of student-athletes rated their athletic experience as neutral or negative. Of those student-athletes reporting negative experiences, 60% of them were Indigenous. Anecdotal reports from the Indigenous student-athletes were revealing. What emerged was a theme of cultural appropriation, seclusion due to ethnicity, combined with a general sense of not belonging. Fortunately, this did not stop all Indigenous student-athletes from demonstrating resiliency traits and a willingness to learn and participate in sport at a competitive level. Additional themes emerged regarding choosing a 'negative' or 'neutral' rating for college experience due in part to the negative and challenging relationships held with one's coach.

### **Anecdotal Reports**

Following are reactions from retired Indigenous student-athletes:

“I enjoyed my teammates and my university as a whole. The coaching staff made the experience for hockey more negative. They were too involved in our personal lives and would use players against each other to share personal information. They also told us we were not good enough for the program and made us wear our jerseys inside out for a two-hour bag skate.”

“My coach wasn't the best and didn't like me.”

“I didn't enjoy my coaches very much or their philosophies.”

“Athletics was not the best as the coach did not play the right players at the right time, and only played their favorite players, I was not one of them for 4 years, also senior year had a mental break down and almost quit because of this as well as personal problems.”

“Had to transfer schools because problems with coaches.”

“I struggled to have a health relationship with my coaches.”

“My experience has a lot of positivity vibes with teams, coach, professors, and friends, but it also had negative vibes where managing everything was difficult from studying plays to studying for concrete. It wasn't necessarily negative, but it was difficult time.”

“The hockey experience was good, didn't have many friends as I didn't like the comments and how they treated me once they found out I was treaty. So instead of surrounding myself with negativity I stayed to myself.”

“My experience as a player was harder than actual school. I felt I was underutilized, and I felt like an outcast as the only Native.”

“Negative experiences included feelings of exclusion when connecting with teammates and coaching staff, which directly related to less playing time.”

“This experience was very intense in a sense of culture shock, homesickness, difficulty with academics. However, I did meet amazing people and had support in ways of athletic trainers, weight coaches and friends.”

“There were ups and downs. Being able to travel, meet new people, a free education, and set an example for my native people were the ups of my time.”

“Friends and teammate were one of the only positive things that came out of my experience, as well as my education.”

This study has demonstrated that sports participation and the possession of an athletic identity may serve as a protective factor, given the numerous challenges and struggles Indigenous student-athletes are faced with on and off First Nation and Reservation communities.

### **Implications**

According to Kessler et al., (2005), one in four Americans possess a diagnosable mental health disorder, most of which onset by age 24. In terms of this study, results indicated 41% (20% Indigenous and 21% non-Indigenous) of retired student-athletes endorsing mental health symptoms at least one standard deviation above the mean. Furthermore, 18% of those student-athletes endorsed mental health symptoms two standard deviations above the mean, indicating clinical significance and a need to address mental health issues among student-athletes. Research indicates between 10-15% of student-athletes have clinical needs significant enough to warrant counseling services (Watson, 2005). It is of the utmost importance student-athletes become aware of the

possible adverse side effects of mental health symptoms and are taught appropriate coping skills and strategies to deal with these symptoms during the transition phase. Lavallee (2005) found interventions can lead to better adaptation for student-athletes during the transition phase. The current study supports Lavallee's (2005) findings for preventive measures regarding mental health services during the transition phase.

The current study supports Lavallee's (2005) findings for preventive measures regarding mental health during the transition phase. The results contribute to the literature and affirm the requirements for athletic departments in colleges and universities to better prepare student-athletes of all ethnicities for the entire college experience as well as the transition phase.

Previous research indicates Indigenous people have drastically higher rates of mental health problems when compared with the rest of the population (Heart, Chase, Elkins, Altschul, 2011).

This study provides a potential solution and protective factors in terms of mitigating mental health symptoms. Student-athletes possessing high athletic identities, coupled with high cultural identities, were shown to have less overall mental health symptoms and an increase in adaptive coping skills.

The results demonstrated Indigenous student-athletes utilized adaptive coping skills during the transition phase. Important research by Hall (2013), Stronach, Maxwell, and Taylor (2016) suggested sport has historically been a fundamental strength to indigenous people's identity. The results continue to support and demonstrate the effectiveness of sport in benefitting Indigenous people's athletic identity and therefore enhancing their ability to cope in an effective manner when faced with adversity.

## **Limitations**

The study acknowledges several limitations. First, the sample was collected through the means of social media which may have had the potential for representation biases. Although efforts were made to obtain a more diverse national sample through Amazon's Mechanical Turk, participants were not gathered due to the specificity of the sample.

Due to the writer's association with the sport of hockey, the sample may have additional biases towards this sport combined with geographical location.

Self-report surveys, which are generally an effective means of collecting data, rely upon a participant's willingness to be honest regarding each item. Further, the study anticipated participants will thoroughly read the directions prior to beginning each survey, understanding they must answer questions according to the transition phase, versus their reflections on their past athletic career. Relatedly, retrospective responding is heavily relied upon in this study. Although research has demonstrated retrospective responding reliable within a 10-year span, this is coupled with the aforementioned direction of recalling the transition phase.

After review of anecdotal reports from student-athletes relating to positive, negative, or neutral experiences during the transition phase, the theme of 'coaches' emerged as a common factor producing negative ratings. There was no direct assessment of a coach's impact on student-athletes experiences during the transition phase and, as such, should be researched in the future.

Although the AIBI measure's validity and reliability have been examined for Native American populations, it has not been normed on Indigenous peoples of Canada.

Further, the AIBI was used as a measure with both Non-Indigenous and Indigenous participants for a measure of cultural identity. This is the first study measuring non-Indigenous identity on the AIBI through the EACI.

Research by Bjornsen and Dinkel (2017) emphasized the importance of having a coach or mentor provide assistance and direction during the transition phase. Anecdotal reports that were not analyzed during this study, included a large consensus of student-athletes indicating a general dissatisfaction and lack of support from coaching staff, therefore leading some student-athletes to rate their athletic experience as unfavorable due to their coaches. This may have also been a potential variable for mental health symptoms and should be researched in the future.

### **Recommendations**

College and university athletic departments are encouraged to consider the implementation of mental health outreach programs during student-athletes' collegiate careers. Of equal importance would be the provision of transitional programs for student-athletes to better prepare them for life following of athletics. It is imperative to ensure faculty, athletic directors, coaches, trainers, and staff, become aware of the possible presence of mental health symptoms in student-athletes during athletic careers, as well as being in a position to possibly provide assistance during the transition phase.

An attempt to reduce the stigma attached to seeking mental health service on campus is strongly recommended. All stakeholders should be educated in terms of the possible mental, social and emotional issues and needs experienced by student-athletes. The instruction of coping skills, dealing with anxiety and handling depression are



elements which should be included in a mental health wellness program provided for all student-athletes.

Another important recommendation for consideration is to suggest college and university athletic departments receive cross-cultural awareness and sensitivity training, annually. The provision of mental health supports, academic supports, and personal counselling should be expected inclusions within student-athlete's athletic programs. Enabling mentoring relationships with culturally appropriate designates, should also be a consideration.

This research has the potential to assist mental health professionals in terms of diagnosing, treating, and working with both Indigenous and non-Indigenous student-athletes. A specific emphasis on cultural elements regarding Indigenous student-athletes during both the competitive phase and transition phase should be a consideration. This research may encourage the employment of a sports or clinical psychologist to assist student-athletes with their mental health needs.

Lastly, this research encourages an increase in recruitment efforts by colleges and universities towards Indigenous populations regarding college athletics. Participation at this level has the potential to benefit Indigenous student-athletes.

## REFERENCES

- Alfermann, D., Stambulova, N., & Zemaityte, A. (2004). Reactions to sport career termination: A cross-national comparison of German, Lithuanian, and Russian athletes. *Psychology of Sport and Exercise, 5*, 61–75. doi:10.1016/S1469-0292(02)00050-X
- Allen, J. & French, C. (1994). Northern Plains Biculturalism Inventory, Preliminary Manual and Scoring Instructions, Version 4.2, 1-9. Unpublished manual, University of South Dakota, Vermillion.
- Álvarez, M. T., Boixadós, M., Valiente, L., & Feliu, J. C. (2004). Elite athletes' image of retirement. *Psychology of Sport and Exercise, 5*, 35–43.
- Anderson, D. (2012). A balanced approach to excellence: Life-skill intervention and elite performance. *Reflective Practice, 13*, 609–620.  
doi:10.1080/14623943.2012.670625
- Armstrong, S., & Oomen-Early, J. (2009). Social Connectedness, Self-Esteem, and Depression Symptomatology Among Collegiate Athletes Versus Nonathletes. *Journal of American College Health, 57*(5), 521–526. doi: 10.3200/jach.57.5.521-526
- Barnard, J. D. (2016). Student-athletes' perceptions of mental illness and attitudes toward help seeking. *Journal of College Student Psychotherapy, 30*(3), 161-175.  
<http://dx.doi.org/10.1080/87568225.2016.1177421>

- Beals, J., Novins, D. K., Whitesell, N. R., Spicer, P., Mitchell, C. M., & Manson, S. M. (2005). Prevalence of Mental Disorders and Utilization of Mental Health Services in Two American Indian Reservation Populations: Mental Health Disparities in a National Context. *American Journal of Psychiatry, 162*(9), 1723-1732.  
doi:10.1176/appi.ajp.162.9.1723
- Beals, J., Novins, D. K., Spicer, P., Whitesell, N. R., Mitchell, C. M., & Manson, S. M. (2006). Help Seeking for Substance Use Problems in Two American Indian Reservation Populations. *Psychiatric Services, 57*(4), 512-520.  
doi:10.1176/ps.2006.57.4.512
- Beauchemin, J. (2014). College Student-Athlete Wellness: An Integrative Outreach Model. *College Student Journal, 48*.
- Bishop, B. (2005). Western psychotherapeutic practice: Engaging aboriginal people in culturally appropriate and respectful ways. *Australian Psychologist, 40*, 8-19.
- Bjornsen, A. L., & Dinkel, D. M. (2017). Transition experiences of division-1 college student-athletes: Coach perspective. *Journal of Sport Behavior, 40*(3), 245-268.
- Blinde, E. M., & Stratta, T. M. (1992) The “sport career death” of college athletes: Involuntary and unanticipated sport exits. *Journal of Sport Behaviors, 15*(1), 3-21.
- Blodgett, A. T., Schinke, R. J., Mcgannon, K. R., Coholic, D. A., Enosse, L., Peltier, D., & Pheasant, C. (2014). Navigating the insider-outsider hyphen: A qualitative exploration of the acculturation challenges of Aboriginal athletes pursuing sport in Euro-Canadian contexts. *Psychology of Sport and Exercise, 15*(4), 345-355.  
doi:10.1016/j.psychsport.2014.02.009

- Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. C., Guenole, N., Orcutt, H. K., Zettle, R. D. (2011). Preliminary psychometric properties of the acceptance and action questionnaire-II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy*, 42, 672–688.  
<https://doi.org/10.1016/j.beth.2011.03.007>
- Brewer, B. W., & Cornelius, A. E. (2001). Norms and factorial invariance of the Athletic Identity Measurement Scale (AIMS). *Academic Athletic Journal*, 15, 103–113.
- Brewer, B. W., Van Raalte, J. L., & Linder, D. E. (1993). Athletic identity: Hercules' muscles or Achilles heel? *International Journal of Sport Psychology*, 24, 237–254.
- Brohm, J. (1978). *Sport: A prison of measured time* (I. Links, Trans.). London, UK: Ian Links.
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief cope. *International journal of behavioral medicine*, 4(1), 92-100.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of personality and social psychology*, 56(2), 267
- Census Bureau. "U.S. Census Bureau. 2011-2015 American Community Survey 5-Year Estimates." 2015. [https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_15\\_5YR\\_S1701&prodType=table](https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S1701&prodType=table)

- Chang, W. H., Wu, C.-H., Kuo, C.-C., & Chen, L. H. (2018). The role of athletic identity in the development of athlete burnout: The moderating role of psychological flexibility. *Psychology of Sport and Exercise, 39*, 45–51. doi: 10.1016/j.psychsport.2018.07.014
- Coakley, J. (1992). Burnout among adolescent athletes: A personal failure or social problem? *Sociology of Sport Journal, 9*, 271–285. <https://doi.org/10.1123/ssj.9.3.271>.
- Cummins, P., & O’Boyle, I. (2015). Psychosocial factors involved in transitions from college to post- college careers for male NCAA division-I basketball players. *Journal of Career Development, 42*, 33–47. Retrieved from <https://search-proquest-com.libproxy.tulane.edu/docview/1697502561?accountid=14437>
- Cunningham, J., & Beneforti, M. (2005). Investigating Indicators for Measuring the Health and Social Impact of Sport and Recreation Programs in Australian Indigenous Communities. *International Review for the Sociology of Sport, 40*(1), 89-98. doi:10.1177/1012690205052170
- Demirel, H. (2016). Have University Sport Students Higher Scores Depression, Anxiety and Psychological Stress? *INTERNATIONAL JOURNAL OF ENVIRONMENTAL & SCIENCE EDUCATION, 11*(16). Retrieved from <https://files.eric.ed.gov/fulltext/EJ1118813.pdf>
- Derogatis L.R., (1992) SCL-90-R: Administration, Scoring of Procedures Manual-II for the Revised Version and Other Instruments of the Psychopathology Rating Scale Series: Clinical Psychometric Research Incorporated.

- Derogatis, L. R., & Lazarus, L. (1994). *SCL-90—R, Brief Symptom Inventory, and matching clinical rating scales*. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcome assessment* (p. 217–248). Lawrence Erlbaum Associates, Inc.
- Dickerson, D. L., Fisher, D. G., Reynolds, G. L., Baig, S., Napper, L. E., & Anglin, M. D. (2012). Substance Use Patterns among High-Risk American Indians/Alaska Natives in Los Angeles County. *The American Journal on Addictions, 21*(5), 445-452. doi:10.1111/j.1521-0391.2012.00258.x
- Disparities UDCfRH. Conversations with Native Americans About Mental Health Needs and Community Strengths. Davis, CA: UC Davis Center for Reducing Health Disparities, 2009
- Eisenberg, D., Downs, M. F., Golberstein, E., & Zivin, K. (2009). Stigma and help seeking for mental health among college students. *Medical Care Research and Review, 66*, 522–541. doi:10.1177/1077558709335173
- Eisenberg, S. A., Shen, B. J., Schwarz, E. R., & Mallon, S. (2012). Avoidant coping moderates the association between anxiety and patient-rated physical functioning in heart failure patients. *Journal of behavioral medicine, 35*(3), 253-261.
- Erpič, S. C., Wylleman, P., & Zupančič, M. (2004). The effect of athletic and non-athletic factors on the sports career termination process. *Psychology of Sport and Exercise, 5*(1), 45–59. doi:10.1016/S1469-0292(02)00046-8

- Ferguson, L., Epp, G. B., Wuttunee, K., Dunn, M., Mchugh, T., & Humbert, M. L. (2018). 'It's more than just performing well in your sport. It's also about being healthy physically, mentally, emotionally, and spiritually': Indigenous women athletes' meanings and experiences of flourishing in sport. *Qualitative Research in Sport, Exercise and Health*, 11(1), 1-19. doi:10.1080/2159676x.2018.1458332
- Ferrante, A.P., Etzel, E., & Lantz, C. (1996). Counseling college student-athletes: The problem, the need 1996. In Etzel, E.F., Ferrante, A.P., & Pinkney, J.W. (Eds.), *Counseling Student-Athletes: Issues and Interventions*, (3-26). Morgantown, WV: Fitness Information Technology Inc.
- Gillham, B. (2000). The research interviews. New York, NY: Continuum International Publishing Group.
- Gretchen Kerr & Anna Dacyshyn (2000) The retirement experiences of elite, female gymnasts, *Journal of Applied Sport Psychology*, 12:2, 115-133, DOI: 10.1080/10413200008404218
- Grove, J. R., Lavalley, D., & Gordon, S. (1997). Coping with retirement from sport: The influence of athletic identity. *Journal of Applied Sport Psychology*, 9, 191–203. <http://doi.org/10.1080/10413209708406481>
- Gustafsson, H., Kenttä, G., & Hassmén, P. (2011). Athlete burnout: An integrated model and future research directions. *International Review of Sport and Exercise Psychology*, 4, 3–24. <https://doi.org/10.1080/1750984X.2010.541927>.

- Hall, M. A. (2013). "Toward a History of Aboriginal Women in Canadian Sport." In  
Aboriginal Peoples and Sport in Canada, edited by J. Forsyth and A. R. Giles, 64–  
94. Vancouver: UBC Press.
- Halpern, J., & Tramontin, M. (2007). *Disaster mental health: Theory and practice*.  
Belmont, CA: Thomson/Brooks-Cole.
- Hanrahan, S. J. (2004). Sport psychology and indigenous performing arts. *The Sport  
Psychologist*, 18, 60-74.
- Harrison, C.K. & Lawrence, S.M. (2004) African American Student Athletes'  
Perceptions of Career Transition in Sport: a visual and qualitative investigation,  
*Race Ethnicity and Education*, 6, pp. 373-394.
- Harrison, C. K., & Lawrence, S. M. (2004). Female and male student athletes'  
perceptions of career transition in sport and higher education: A vision elicitation  
and qualitative assessment. *Journal of Vocational Education and Training*, 56(4),  
485-506.
- Harrison, C.K. & Lawrence, S.M. (2002) Policy, Patriarchy, and Progressive: mindsets of  
women in intercollegiate sports, *Texas Entertainment and Sports Law Journal*,  
11, pp. 5-13.
- Heart, M. Y., Chase, J., Elkins, J., & Altschul, D. B. (2011). Historical Trauma Among  
Indigenous Peoples of the Americas: Concepts, Research, and Clinical  
Considerations. *Journal of Psychoactive Drugs*, 43(4), 282-290.  
doi:10.1080/02791072.2011.628913



- Henschen, K. (2005). Mental Practice - Skill Oriented. In Hackfort, D., Duda, J.L., and Lidor, R. (Eds.), *The Psychology of Team Sports* (143-160). Morgantown, WV: Fitness Information Technology.
- Kaier, E., Cromer, L. D., Johnson, M. D., Strunk, K., & Davis, J. L. (2015). Perceptions of Mental Illness Stigma: Comparisons of Athletes to Nonathlete Peers. *Journal of College Student Development*, 56(7), 735–739. doi: 10.1353/csd.2015.0079
- Katie Warriner & David Lavalley (2008) The Retirement Experiences of Elite Female Gymnasts: Self-Identity and the Physical Self, *Journal of Applied Sport Psychology*, 20:3, 301-317, DOI: 10.1080/10413200801998564
- Kerr, Z. Y., Defreese, J., & Marshall, S. W. (2014). Current Physical and Mental Health of Former Collegiate Athletes. *Orthopaedic Journal of Sports Medicine*, 2(8), 232596711454410. doi: 10.1177/2325967114544107
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry*, 62, 593-602.
- Knights, S., Sherry, E., & Ruddock-Hudson, M. (2016). Investigating elite end-of-athletic-career transition: A systematic review. *Journal of Applied Sport Psychology*, 28, 291–308. doi:10.1080/ 10413200.2015.1128992
- Kontos, A. P., & Breland-Noble, A. M. (2002). Racial/ethnic diversity in applied sport psychology: A multicultural introduction to working with athletes of color. *The Sport Psychologist*, 16, 296-315

- Lane, D. M. (2010) Tukey's Honestly Significant Difference (HSD). In N. J. Elkind (Ed.) *Encyclopedia of Research Methods*, Sage Publications.
- Lally, P. (2007). Identity and athletic retirement: A prospective study. *Psychology of Sport and Exercise*, 8, 85–99. <http://doi.org/10.1016/j.psychsport.2006.03.003>
- Lapchick, R. E. (2018). 2017 College sport racial & gender report card. The University of Central Florida: The Institute for Diversity and Ethics in Sport. Retrieved July 23, 2019, [https://www.insidehighered.com/sites/default/server\\_files/media/2017%20College%20Sport%20Racial%20and%20Gender%20Report%20Card.pdf](https://www.insidehighered.com/sites/default/server_files/media/2017%20College%20Sport%20Racial%20and%20Gender%20Report%20Card.pdf)
- Lavallee, D. (2005). The effect of a life development intervention on sports career transition adjustment. *The Sport Psychologist*, 19, 193–202. <http://doi.org/10.3916/C34-2010-02-03>
- Lavallee, D., & Robinson, H. K. (2007). In pursuit of an identity: A qualitative exploration of retirement from women's artistic gymnastics. *Psychology of Sport and Exercise*, 8, 119–141. <http://doi.org/10.1016/j.psychsport.2006.05.003>
- Lehavot K (2012) Coping strategies and health in a national sample of sexual minority women. *Am J Orthopsychiatry*. 82(4):494–504
- Leonard, J., & Schimmel, C. (2016). Theory of working adjustments of student-athletes' transition out of sport. *Journal of Issues in Intercollegiate Athletics*, 9, 62-85.
- Link, B. G. (1987). Understanding labeling effects in the area of mental disorders: An assessment of the effects of expectations of rejections. *American Sociological Review*, 52, 96–112. doi:10.2307/2095395

- Linnemeyer, R. M., & Brown, C. (2010). Career maturity and foreclosure in student athletes, fine arts students, and general college students. *Journal of Career Development, 37*(3), 616- 634.
- Martin, E. M., & Horn, T. S. (2013). The role of athletic identity and passion in predicting burnout in adolescent female athletes. *The Sport Psychologist, 27*, 338–348. [https:// doi.org/10.1123/tsp.27.4.338](https://doi.org/10.1123/tsp.27.4.338).
- Martin, J. K., Pescosolido, B. A., & Tuch, S. A. (2000). Of fear and loathing: The role of ‘disturbing behavior,’ labels, and causal attributions in shaping public attitudes toward people with mental illness. *Journal of Health and Social Behavior, 41*(2), 208–223. doi:10.2307/2676306
- Martinkova, I. (2008). Sport competition and health: A healthy relationship? *Studies in the Physical Culture and Tourism, 15*, 19–25.
- McDonald, J.D. & Chaney, J. (2003). Resistance to multiculturalism: The “Indian problem.” In J.S. Mio & G.Y. Iwamasa (Eds.), *Culturally diverse mental health: The challenges of research and resistance* (pp. 39-54). New York: Brunner-Routledge.
- McDonald, J.D., Ross, R., Rose, W., Young, A., Ashpole, M., & Martell, L. (2015). Development of the American Indian Biculturalism Inventory-Northern Plains (AIBI- NP). Poster presentation at the 2015 Northern Lights Psychology conference, Grand Forks, ND

- Meyer, B. (2001) Coping with severe mental illness: Relations of the Brief COPE with symptoms, functioning, and well-being. *Journal of Psychopathology and Behavioral Assessment*. 23:265–77
- Miller, L., & Buttell, F. P. (2018). Are NCAA Division I athletes prepared for end-of-athletic-career transition? A literature review. *Journal of Evidence-Informed Social Work*, 15(1), 52-70.
- Mohanraj, R., Jeyaseelan, V., Kumar, S., Mani, T., Rao, D., Murray, K. R., & Manhart, L. E. (2014). Cultural Adaptation of the Brief COPE for Persons Living with HIV/AIDS in Southern India. *AIDS and Behavior*, 19(2), 341-351.  
doi:10.1007/s10461-014-0872-2
- Murdock, J. L., Strear, M. M., Jenkins, Guarnieri, M. A., & Henderson, A. C. (2014). Collegiate athletes and career identity. *Sport, Education and Society*, 21(3), 396-410.
- Myers, J. E., & Sweeney, T. J. (2004). *The Five Factor Wei*. Greensboro, NC: Auth
- Nagy, D., & Szamosközi, Ş. (2013). Efficacy of cognitive behavioral interventions on complicated grief in adults: A quantitative meta-analysis. *Transylvanian Journal of Psychology*, 14, 39–54.
- National Collegiate Athletic Association. (2016b). Countable athletic related activities. Retrieved from <https://www.ncaa.org/sites/default/files/20-Hour-Rule-Document.pdf>

- National Collegiate Athletic Association. (2015). How are NCAA Graduation rates calculated? [PowerPoint slides]. Retrieved from [http://www.ncaa.org/sites/default/files/How%20is%20grad%20rate%20calculated\\_nov\\_2015.pdf](http://www.ncaa.org/sites/default/files/How%20is%20grad%20rate%20calculated_nov_2015.pdf)
- NCAA.org - The Official Site of the NCAA. (n.d.). Retrieved 2015, from <http://www.ncaa.org/>
- Office of Minority Health. (2017, July 5). Retrieved from <https://www.minorityhealth.hhs.gov/omh/browse>.
- Paraschak, V. (1996). Racialized spaces: Cultural regulation, aboriginal agency and powwows. *Avante*, 2, 7-18.
- Parcover, J.A., Mettrick, J., Parcover, C.A.D., & Griffin-Smith, P. (2009). University and college counselors as athletic team consultants: Using a structural family therapy model. *Journal of College Counseling*, 12, 149-161.
- Park, S., Lavalley, D., & Tod, D. (2013). Athletes' career transition out of sport: A systematic review. *International Review of Sport and Exercise Psychology*, 6, 22–53. <http://doi.org/10.1080/1750984X.2012.687053>
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Pinkerton, R. S., Hinz, L. D., & Barrow, J. C. (1989). The college student-athlete: Psychological considerations and interventions. *College Student Athlete*, 37, 218–226. Retrieved from <http://www.proquest.com>

- Poux, K., & Fry, M. (2015). Athletes' perceptions of their team motivational climate, career exploration and engagement, and athletic identity. *Journal of Clinical Sport Psychology, 9*, 360-372.
- Raedeke, T. D., & Smith, A. L. (2001). Development and preliminary validation of an athlete burnout measure. *Journal of Sport & Exercise Psychology, 23*, 281–306. <https://doi.org/10.1123/jsep.23.4.281>.
- Ribeiro, J. D., & Joiner, T. E. (2009). The interpersonal-psychological theory of suicidal behavior: Current status and future directions. *Journal of Clinical Psychology, 65*, 1291–1299. doi:10.1002/jclp.20621
- Schinke, R. J., Blodgett, A. T., Yungblut, H. E., Eys, M. A., Battochio, R. C., Wabano, M. J., Recollet-Saikonnen, D. (2010). The Adaptation Challenges and Strategies of Adolescent Aboriginal Athletes Competing Off Reserve. *Journal of Sport and Social Issues, 34*(4), 438-456. doi:10.1177/0193723510379993
- Schlossberg, N. (1981). A model for analyzing human adaptation. *The Counselling Psychologist, 9*, 2–18.
- Simon, J. E., & Docherty, C. L. (2014). Current Health-Related Quality of Life Is Lower in Former Division I Collegiate Athletes Than in Non-Collegiate Athletes. *The American Journal of Sports Medicine, 42*(2), 423–429. <https://doi.org/10.1177/0363546513510393>

- Smallman, E., & Sowa, C. J. (1996). Career Maturity Levels of Male Intercollegiate Varsity Athletes. *The Career Development Quarterly*, 44(3), 270–277. doi: 10.1002/j.2161-0045.1996.tb00258.x
- Stephan, Y., Bilard, J., Ninot, G., & Delignières, D. (2003). Bodily transition out of elite sport: A one-year study of physical self and global self-esteem among transitional athletes. *International Journal of Sport and Exercise Psychology*, 1, 192–207. <http://doi.org/10.1080/1612197X.2003.9671712>
- Stoltenburg, A. L., Kamphoff, C. S., & Lindstrom Bremer, K. (2011). Transitioning out of sport: The psychosocial effects of collegiate athletes' career-ending injuries. *Athletic Insight Journal*, 3(2), 115-133.
- Stout, Morgan, "Does Participation in College Athletics Prepare Student-Athletes for Careers and Life After College Sports?: A Review of the Literature" (2018). *Kinesiology, Sport Studies, and Physical Education Synthesis Projects*. 42. Retrieved from [https://digitalcommons.brockport.edu/pes\\_synthesis/42](https://digitalcommons.brockport.edu/pes_synthesis/42).
- Stronach, M., Maxwell, H., & Taylor, T. (2015). ‘Sistas’ and Aunties: Sport, physical activity, and Indigenous Australian women. *Annals of Leisure Research*, 19(1), 7-26. doi:10.1080/11745398.2015.1051067
- Sturm, J. E., Feltz, D. L., & Gilson, T. A. (2011). A comparison of athlete and student identity for Division I and Division III athletes. *Journal of Sport Behavior*, 34(3), 295-306.
- Super, D., Thompson, A., Lindeman, R., Jordaan, J., & Myers, R. (1981). *The Career Development Inventory*. Palo Alto, CA: Consulting Psychologists Press.

- Thompson, A. S., Lindeman, R. H., Super, D. E., Jordaan, J.P., & Myers, R. A. (1984). *Career Development Inventory Technical Manual*. Palo Alto, CA: Consulting Psychologists Press.
- Torregrosa, M., Ramis, Y., Pallarés, S., Azócar, F., & Selva, C. (2015). Olympic athletes back to retirement: A qualitative longitudinal study. *Psychology of Sport and Exercise, 21*, 50–56.
- Tyrance, S. C., Harris, H. L., & Post, P. (2013). Predicting positive career planning attitudes among NCAA Division I college student-athletes. *Journal of Clinical Sport Psychology, 7*(1), 22-40.
- Vcortez. (2019, May 14). What is the NCAA? Retrieved from <http://www.ncaa.org/about/resources/mediacenter/ncaa-101/what-ncaa>
- Watson, J. C. (2005). College student-athletes' attitudes toward help-seeking behavior and expectations of counseling services. *Journal of College Student Development, 46*, 442–449. doi:10.1353/csd.2005.0044
- Watson, J. C. (2006). Student-athletes and counseling: Factors influencing the decision to seek counseling services. *College Student Journal, 40*, 35-42.
- Watson, J.C. & Kissinger, D.B. (2007). Athletic participation and wellness: Implications for counseling college student-athletes. *Journal of College Counseling, 10*, 153-162.
- Whitehead, P. M., & Senecal, G. (2019). Balance and mental health in NCAA Division I student-athletes: An existential humanistic view. *The Humanistic Psychologist*. doi: 10.1037/hum0000138



- Willard, V. C., & Lavalley, D. (2016). Retirement experiences of elite ballet dancers: Impact of self- identity and social support. *Sport, Exercise, and Performance Psychology, 5*, 266–279. doi:10.1037/ spy0000057
- Wilson, G.S. & Pritchard, M. (2005). Comparing sources of stress in college student athletes and non-athletes. *Athletic Insight, 7(1)*, 1-8.
- Wippert, P., & Wippert, J. (2008). Perceived stress and prevalence of traumatic stress symptoms following athletic career termination. *Journal of Clinical Sport Psychology, 2*, 1–16.
- Wylleman, P., Lavalley, D. (2004). A developmental perspective on transitions faced by athletes. In Weiss, M. (Ed.), *Developmental sport psychology*. Morgantown, WV: Fitness Information Technology.

APPENDIX A

**Athletic identity measurement scale**

**Directions:** Reflect on your time as a student-athlete. Rate the following statements based on that time in your life.

	Strongly Agree	Agree	Agree Somewhat	Neither Agree or Disagree	Disagree Somewhat	Disagree	Strongly Disagree
<b>1. I consider myself an athlete.</b>							
<b>2. I have many goals related to sport.</b>							
<b>3. Most of my friends are athletes.</b>							
<b>4. Sport is the most important part of my life.</b>							
<b>5. I spend more time thinking about sport than anything else.</b>							
<b>6. I need to participate in sport to feel good about myself.</b>							
<b>7. Other people see me mainly as an athlete.</b>							
<b>8. I feel bad about</b>							

myself when I do poorly in sport.							
9. Sport is the only important thing in my life.							
10. I would be very depressed if I were injured and could not compete in sport.							

APENDIX B

**American Indian Biculturalism Inventory**

**Directions:** Please answer each item as accurately as you can about your thoughts, feelings, and participation in some important Native and non-Native aspects of life. There are no right or wrong answers, please share some of your honest opinions and experiences.

1. In general, how comfortable are you around White people?

1. ____	2. ____	3. ____	4. ____
No comfort			Complete comfort

2. How comfortable are you in encouraging your (or related) children to learn and practice Indigenous ways?

1. ____	2. ____	3. ____	4. ____
No comfort			Complete comfort

3. How strongly do you identify with Indigenous culture?

1. ____	2. ____	3. ____	4. ____
No identification			Greatly Identify

4. How strongly do you identify with White culture?

1. ____	2. ____	3. ____	4. ____
No Identification			Greatly Identify

5. How often do you think in an Indigenous language?

1. ____	2. ____	3. ____	4. ____
I rarely or never Think in an Indigenous language			Very often or always think in an Indigenous language

6. How confident are you in White/Western (doctors in hospitals) medicine?

1. ____	2. ____	3. ____	4. ____
No confidence in White medical doctors			Have complete confidence in White medical doctors

7. How confident are you in traditional Indigenous medicine and ceremonies?

1. _____	2. ____	3. ____	4. _____
No confidence in Indigenous medicine			Have very strong faith in Indigenous medicine

8. How much is your way of thinking of “family” Indigenously oriented (cousins same as brothers and sisters, aunts/uncles as parents, everyone is related)?

1. _____	2. ____	3. ____	4. _____
My idea of “family” Is mostly ‘White’, Relatives/friends are just what They are			My idea of “family” is very strongly Indigenous oriented ‘we are all relatives’

9. How often do you attend traditional Indigenous ceremonies (i.e., Sweat lodge, pipe ceremonies, Sundance, Shaky Tent, Vision Quest)?

1. _____	2. ____	3. ____	4. _____
I never attend Indigenous ceremonies			I attend Indigenous ceremonies frequently

10. How often do you attend more White, Christian religious ceremonies (Christenings, Baptisms, Church services)?

1. _____	2. ____	3. ____	4. _____
I never attend Christian ceremonies			I attend Christian ceremonies frequently

11. How often do you participate in Indigenous dancing (Grass, Fancy, Jingle-Dress, Round, etc.)?

1. _____	2. ____	3. ____	4. _____
I never participate In Indigenous dances			I participate in Indigenous dances frequently

12. To how many social organizations do you belong where most of the members are Indigenous?

1. _____	2. ____	3. ____	4. _____
I belong to no Indigenous organizations			Most of the organizations I belong to are Indigenous organizations

13. How often do you attend White celebrations (i.e., White ethnic festivals, parades, etc)?

1. ____	2. ____	3. ____	4. ____
I never attend White celebrations			I attend White celebrations frequently

14. How often do you attend Indigenous celebrations (i.e., Pow Wows, Wacipis, Hand-games)?

1. ____	2. ____	3. ____	4. ____
I never attend Indigenous celebrations			I attend Indigenous celebrations frequently

15. How many of your family speak an Indigenous language?

1. ____	2. ____	3. ____	4. ____
None of my family Speaks an Indigenous language			Most of my family speaks an Indigenous language

16. How much do you speak an Indigenous language?

1. ____	2. ____	3. ____	4. ____
I rarely or never Speak an Indigenous language			I often or always speak an Indigenous language

17. To what extend do members of your family have Indigenous first or last names (like “Wambli” or “Kills-in-Water”)?

1. ____	2. ____	3. ____	4. ____
None have Indigenous names			Most or all have Indigenous names

18. How often do you talk about White news and culture in your daily conversation?

1. ____	2. ____	3. ____	4. ____
I never engage in Topics of conversations About White people And their culture			I engage in topics of conversations about White people and their culture

19. How often do you talk about Indigenous topics, news and culture in your daily conversations?

1. _____	2. ____	3. ____	4. _____
I never discuss Indigenous news or cultural Issues			I discuss Indigenous news or culture daily

20. How much do you believe in any Indigenous Creation Stories (how earth/people/animals were made)?

1. _____	2. ____	3. ____	4. _____
I don't believe in any Of those stories			I very strongly believe in those stories

21. How much do you believe in any non-Indigenous Creation Stories (Adam/Eve, Garden of Eden etc.?)

1. _____	2. ____	3. ____	4. _____
I don't believe in any Of those stories			I very strongly believe in those stories

22. In general, how much do you believe “*success*” best means when an **individual** wins or achieves something?

1. _____	2. ____	3. ____	4. _____
I totally believe Success is best achieved by families Individuals			I totally believe success is best achieved by groups (i.e., teams, tribes, etc.)

23. How important is your European or White heritage and history to you?

1. _____	2. ____	3. ____	4. _____
Not at all Important			Very Important

APENDIX C  
**Brief Cope Inventory**

**Directions:** The following questions ask how you have sought to cope with a hardship in your life. Please remember, you are answering these questions based on your **transition phase**. Read the statements and indicate how much you used each coping style during your **transition phase**.

	I haven't been doing this at all	A little bit	A medium amount	I've been doing this a lot
1. I've been turning to work or other activities to take my mind off things.	1	2	3	4
2. I've been concentrating my efforts on doing something about the situation I'm in.	1	2	3	4
3. I've been saying to myself "this isn't real".	1	2	3	4
4. I've been using alcohol or other drugs to make myself feel better.	1	2	3	4
5. I've been getting emotional support from others	1	2	3	4
6. I've been giving up trying to deal with it.	1	2	3	4
7. I've been taking action to try make the situation better.	1	2	3	4
8. I've been refusing to believe that it has happened.	1	2	3	4
9. I've been saying things to let my unpleasant feelings escape.	1	2	3	4
10. I've been getting help and advice from other people.	1	2	3	4
11. I've been using alcohol or other drugs to help me get through it.	1	2	3	4
12. I've been trying to see it in a different light, to make it seem more positive.	1	2	3	4
13. I've been criticizing myself.	1	2	3	4
14. I've been trying to come up with a strategy about what to do.	1	2	3	4
15. I've been getting comfort and understanding from someone.	1	2	3	4
16. I've been giving up the attempt to cope.	1	2	3	4



17. I've been looking for something good in what is happening.	1	2	3	4
18. I've been making jokes about it.	1	2	3	4
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	1	2	3	4
20. I've been accepting the reality of the fact that it has happened.	1	2	3	4
21. I've been expressing my negative feelings.	1	2	3	4
22. I've been trying to find comfort in my religion or spiritual beliefs.	1	2	3	4
23. I've been trying to get advice or help from other people about what to do.	1	2	3	4
24. I've been learning to live with it.	1	2	3	4
25. I've been thinking about what steps to take.	1	2	3	4
26. I've been blaming myself for things that happened.	1	2	3	4
27. I've been praying or mediating	1	2	3	4
28. I've been making fun of the situation.	1	2	3	4

APPENDIX D  
**SCL-90-R**

**Directions:** Below is a list of problems and complaints that people sometimes have. Please read each one carefully and enter the number that best describes how much you were bothered by that problem during the transition phase. **Transition Phase**

**Definition:** *The phase immediately following the conclusion of your eligibility status as a student-athlete.*

Please enter only ONE response for each item.

	Not At All	A Little Bit	Moderately	Quite A Bit	Extremely
1. Headaches	0	1	2	3	4
2. Nervousness or shakiness inside	0	1	2	3	4
3. Unwanted thoughts, words, or ideas that won't leave your mind	0	1	2	3	4
4. Faintness or dizziness	0	1	2	3	4
5. Loss of sexual interest or pleasure	0	1	2	3	4
6. Feeling critical of others	0	1	2	3	4
7. The idea that someone else can control your thoughts	0	1	2	3	4
8. Feeling others are to blame for most of your troubles	0	1	2	3	4
9. Trouble remembering things	0	1	2	3	4
10. Worried about sloppiness or carelessness	0	1	2	3	4
11. Feeling easily annoyed or irritated	0	1	2	3	4
12. Pains in heart or chest	0	1	2	3	4
13. Feeling afraid in open spaces or on the streets	0	1	2	3	4
14. Feeling low in energy or slowed down	0	1	2	3	4
15. Thoughts of ending your life	0	1	2	3	4
16. Hearing words that others do not hear	0	1	2	3	4
17. Trembling	0	1	2	3	4

18. Feeling that most people cannot be trusted	0	1	2	3	4
19. Poor appetite	0	1	2	3	4
20. Crying easily	0	1	2	3	4
21. Feeling shy or uneasy with the opposite sex	0	1	2	3	4
22. Feeling of being trapped or caught	0	1	2	3	4
23. Suddenly scared for no reason	0	1	2	3	4
24. Temper outbursts that you could not control	0	1	2	3	4
25. Feeling afraid to go out of your house alone	0	1	2	3	4
26. Blaming yourself for things	0	1	2	3	4
27. Pains in lower back	0	1	2	3	4
28. Feeling blocked in getting things done	0	1	2	3	4
29. Feeling lonely	0	1	2	3	4
30. Feeling blue	0	1	2	3	4
31. Worrying too much about things	0	1	2	3	4
32. Feeling to interest in things	0	1	2	3	4
33. Feeling fearful	0	1	2	3	4
34. Your feelings being easily hurt	0	1	2	3	4
35. Other people being aware of your private thoughts	0	1	2	3	4
36. Feeling others do not understand you or are unsympathetic	0	1	2	3	4
37. Feeling that people are unfriendly or dislike you	0	1	2	3	4
38. Having to do things very slowly to insure correctness	0	1	2	3	4
39. Heart pounding or racing	0	1	2	3	4
40. Nausea or upset stomach	0	1	2	3	4
41. Feeling inferior to others	0	1	2	3	4
42. Soreness of your muscles	0	1	2	3	4

43. Feeling that you are watched or talked about by others	0	1	2	3	4
44. Trouble falling asleep	0	1	2	3	4
45. Having to check and double-check what you do	0	1	2	3	4
46. Difficulty making decisions	0	1	2	3	4
47. Feeling afraid to travel on buses, subways, or trains	0	1	2	3	4
48. Trouble getting your breath	0	1	2	3	4
49. Hot or cold spells	0	1	2	3	4
50. Having to avoid certain things, places or activities because they frighten you	0	1	2	3	4
51. Your mind going blank	0	1	2	3	4
52. Numbness or tingling in parts of your body	0	1	2	3	4
53. A lump in your throat	0	1	2	3	4
54. Feeling hopeless about the future	0	1	2	3	4
55. Trouble concentrating	0	1	2	3	4
56. Feeling weak in parts of your body	0	1	2	3	4
57. Feeling tense or keyed up	0	1	2	3	4
58. Heavy feelings in your arms or legs	0	1	2	3	4
59. Thoughts of death or dying	0	1	2	3	4
60. Overeating	0	1	2	3	4
61. Feeling uneasy when people are watching or talking about you	0	1	2	3	4
62. Having thoughts that are not your own	0	1	2	3	4
63. Having urges to beat, injure, or harm someone	0	1	2	3	4
64. Awakening in the early morning	0	1	2	3	4

65. Having to repeat the same actions such as touching, counting, washing	0	1	2	3	4
66. Sleep that is restless or disturbed	0	1	2	3	4
67. Having urges to break or smash things	0	1	2	3	4
68. Having ideas or beliefs that others do not share	0	1	2	3	4
69. Feeling very self-conscious with others	0	1	2	3	4
70. Feeling uneasy in crowds, such as shopping or at a movie	0	1	2	3	4
71. Feeling everything is an effort	0	1	2	3	4
72. Spells of terror or panic	0	1	2	3	4
73. Feeling uncomfortable about eating or drinking in public	0	1	2	3	4
74. Getting into frequent arguments	0	1	2	3	4
75. Feeling nervous when you are left alone	0	1	2	3	4
76. Others not giving you proper credit for your achievements	0	1	2	3	4
77. Feeling lonely even when you are with people	0	1	2	3	4
78. Feeling so restless you couldn't sit still	0	1	2	3	4
79. Feelings of worthlessness	0	1	2	3	4
80. Feeling that familiar things are strange or unreal	0	1	2	3	4
81. Shouting or throwing things	0	1	2	3	4
82. Feeling afraid you will faint in public	0	1	2	3	4
83. Feeling that people will take advantage of you if you let them	0	1	2	3	4

84. Having thoughts about sex that bother you a lot	0	1	2	3	4
85. The idea that you should be punished for your sins	0	1	2	3	4
86. Feeling pushed to get things done	0	1	2	3	4
87. The idea that something serious is wrong with your body	0	1	2	3	4
88. Never feeling close to another person	0	1	2	3	4
89. Feelings of guilt	0	1	2	3	4
90. The idea that something is wrong with your mind	0	1	2	3	4