

8-1-2017

An Evaluation of the Effects of the Coach-Athlete Relationship on Athlete Mental Health

Corey Rae Phillips

University of Nevada, Las Vegas, coreyraekuhn@gmail.com

Follow this and additional works at: <https://digitalscholarship.unlv.edu/thesesdissertations>

 Part of the [Clinical Psychology Commons](#)

Repository Citation

Phillips, Corey Rae, "An Evaluation of the Effects of the Coach-Athlete Relationship on Athlete Mental Health" (2017). *UNLV Theses, Dissertations, Professional Papers, and Capstones*. 3097.

<https://digitalscholarship.unlv.edu/thesesdissertations/3097>

This Thesis is brought to you for free and open access by Digital Scholarship@UNLV. It has been accepted for inclusion in UNLV Theses, Dissertations, Professional Papers, and Capstones by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.

AN EVALUATION OF THE EFFECTS OF THE COACH-ATHLETE
RELATIONSHIP ON ATHLETE MENTAL HEALTH

by

Corey Rae Phillips

Bachelor of Science
Roberts Wesleyan College
2013

A thesis submitted in partial fulfillment of the requirements for the

Master of Arts – Psychology

Department of Psychology
College of Liberal Arts
The Graduate College

University of Nevada, Las Vegas
August 2017



Thesis Approval

The Graduate College
The University of Nevada, Las Vegas

July 11, 2017

This thesis prepared by

Corey Rae Phillips

entitled

An Evaluation of the Effects of the Coach-Athlete Relationship on Athlete Mental Health

is approved in partial fulfillment of the requirements for the degree of

Master of Arts – Psychology
Department of Psychology

Dr. Bradley Donohue, Ph.D.
Examination Committee Chair

Kathryn Hausbeck Korgan, Ph.D.
Graduate College Interim Dean

Dr. Rachael Robnett, Ph.D.
Examination Committee Member

Dr. Kimberly Barchard, Ph.D.
Examination Committee Member

Dr. Nancy Lough, Ph.D.
Graduate College Faculty Representative

ABSTRACT

An Evaluation of the Effects of the Coach-Athlete Relationship on Athlete Mental Health

by

Corey Rae Phillips

Dr. Bradley Donohue, Advisory Committee Chair

Professor of Psychology

University of Nevada-Las Vegas

There is a demand to target the mental health needs of collegiate athletes, who are considered to be at-risk for physiological injuries, psychological disturbances, and academic problems. Due to the dynamic nature of the coach-athlete relationship, assessing the impact coaches have on athletes' psychological wellbeing is imperative to shift the way mental health is addressed within this population. The current study aims to address the relationship between perceived problems in the coach-athlete relationship and mental health of college students who participate in organized sport. I hypothesize that problems in the relationship have serious implications for athletes and mental health providers in that an athlete's perception of problems in the coach-athlete relationship will predict more mental health problems, substance use, and stress than athletes who do not identify problems in the coach-athlete relationship. In addition, the current study aims to understand gender related differences in mental health complaints, substance use, and perception of problems within the coach-athlete relationship. I hypothesize that male and female athletes will report differences in their experience of these three domains.

ACKNOWLEDGEMENTS

This research project would not be possible without the support and guidance of many. A special thank you to Dr. Bradley Donohue, for continued wisdom and direction, and to each member of the committee, Dr. Rachael Robnett, Dr. Kimberly Barchard, and Dr. Nancy Lough, for their time, knowledge, and assistance in bringing this project to fruition. Finally, a mountain of gratitude for friends and family, my parents, my sister, my fiancé, and my research assistants, who kept me focused and motivated throughout this arduous process. Thank you all for your support and encouragement.

TABLE OF CONTENTS

ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	iv
CHAPTER 1: Introduction	1
CHAPTER 2: Literature Review.....	3
Mental Health of Student-Athletes.....	3
The Coach-Athlete Relationship.....	8
Sport Level Differences.....	14
Gender.....	16
CHAPTER 3: The Present Study.....	18
Methods.....	18
Participants.....	18
Measures.....	19
Demographics Form.....	19
The Student-Athlete Relationship Instrument.....	19
Symptom Checklist-90-Revised.....	20
Beck Depression Inventory-II.....	21
Timeline Followback.....	21
Procedure.....	21
CHAPTER 4: Analysis.....	23
Results.....	23
Descriptive Results.....	23
Preliminary Analysis.....	24

Primary Analysis.....	24
Hypothesis 1: The coach-athlete relationship.....	24
BDI.....>.....	25
SCL-90-R.....	25
TLFB days drinking.....	26
TLFB days using marijuana.....	26
TLFB days binge drinking.....	27
Hypothesis 2: Gender.....	27
CHAPTER 5: Discussion.....	29
Mental Health.....	29
Substance Use.....	31
Sport Level.....	32
Gender.....	32
Limitations and Future Directions.....	33
REFERENCES.....	36
CURRICULUM VITAE.....	53

CHAPTER 1: Introduction

Sport participation is a pervasive component of development and plays a substantial role in the United States. In 2011, the National Collegiate Athletics Association (NCAA, 2015) reported that over 480,000 athletes participated in intercollegiate sport at the Division I, II, or III level. Collegiate club sport participation is estimated to involve more than two million student-athletes, and 8.1 million students participate in intramural competition governed by the National Intramural-Recreational Sports Association (Pennington, 2008; NIRSA, 2015). Athletes are one of the most recognized special populations on United States campuses (Valentine & Taub, 1999). There is a demand to target the needs of athletes at the collegiate level, as athletes are considered to be at-risk for physiological injuries, academic problems, and psychological disturbances, including eating disorders, burnout, and substance use disorders (Nattiv Puffer & Green, 1997; Raedeke, 1997; Thompson & Sherman, 2007; Wiese-Bjornstal, 2010).

The combination of sport and psychological sciences contributed to the birth of applied sport psychology (Weinberg, 1987), a growing domain that until recently was exclusively focused on the optimization of sport performance. However, the need to include mental health optimization within sport psychology has become increasingly apparent (Donohue et al., 2015). Sport psychologists work with elite athletes to improve mental skills, such as relaxation, leadership, and communication; develop goals; manage injuries and burnout; decrease emotional disorders; and manage relationships, but athletes resist working with these professionals (Donohue et al., 2004b).

Examining the coach-athlete relationship can shift how mental health is addressed within this population. The pre-existing, hierarchical structure typical of athletics may provide an ideal vehicle for the prevention of and intervention for mental health problems. Coaches tend to be major role models for student-athletes (Simons, Rheenen, & Covington, 1999) and often play an important part in shaping personal, professional, and athletic development during the extensive amounts of time they spend together. In this study, I will review the extant literature on mental health in student-athletes and the coach-athlete relationship, including the implications of athlete-identified problems within the coach-athlete relationship.

CHAPTER 2: Literature Review

Mental Health of Student-Athletes

From Wheaties boxes to magazine covers, athletes hold an idealized role in United States. Though many consider athletes immune to mental illness problems due to their culturally romanticized role, research shows at least 10% to 15% of student-athletes suffer from clinically significant distress (Watson & Kissinger, 2007), suggesting a need to address mental health needs in this population. In one study, 24% of athletes exhibited clinically relevant depressive symptoms (Wolanin, Hong, Marks, Panchoo, & Gross, 2016). These results contrast with findings that the prevalence of any mood disorder, including Major Depressive Disorder, Dysthymia, and Bipolar Disorder in college students, is less than 11% (Blanco et al., 2008). In comparison, the nationwide average for prevalence of depressive disorders on college campuses is between 8 to 9% (Watson & Kissinger, 2007). College attendees typically fall within the high risk age group of 16 to 34 year olds who have a high prevalence of mental health disorders (25 to 26%; Gulliver, Griffiths, & Christensen, 2012). More specifically, they are often 18 to 21 years old, which is the age range with the highest proportion of diagnosable alcohol-use disorders and multiple substance use dependencies (Turrisi, Mallett, Mastroleo, & Larimer, 2006). Essentially, athletes are subject to at least the same risk for mental health problems as non-athletes (Gill, 2008; Malinauskas, Cucchiara, Aeby, & Bruening, 2007; Reardon & Factor, 2010).

Sport culture places an emphasis on physical performance, generally at the cost of physical and psychological wellbeing (Rice et al., 2016; Weinberg, Vernau, & Horn, 2013). The effects of athletic participation impact more than sport performance (Chen,

Snyder, & Magner, 2010). The influence of athletics can affect the trajectory of one's life. Individuals who participate in organized athletic competition belong to a unique demographic with distinctive needs, and despite their idealized status they are often marginalized. For example, of 538 collegiate athletes sampled in one study, 62.1% reported that a faculty member had made negative comments about athletes in class (Simons, Bosworth, Fujita, & Jensen, 2007). It is necessary to focus attention on this population, within the context of the athletic culture, and identify strategies to best address mental health effectively and proactively.

There is a dearth of knowledge of the prevalence, risk factors, prognosis, and the unique experiences facing athletes regarding overtraining, Bipolar Disorder, suicidality, anxiety disorders, Attention-Deficit/Hyperactivity Disorder (ADHD), and psychosis (Reardon & Factor, 2010). Some argue mental health concerns may be present in some athletes because they initiate sport participation as a coping mechanism to manage an emerging condition, such as weight concerns, hyperactivity or attention problems in childhood (Holm-Denoma, Scaringi, Gordon, Van Orden, & Joiner, 2009; Kreher, 2012). These individuals may find college sport participation precipitates or worsens the existing disorder (Reardon & Factor, 2010). In addition, many components of the normative athletic experience, such as rigorous attention to diet and restricted eating, aggression, physical or psychological exhaustion, or alcohol use (Giel et al., 2016; Marasescu, 2013; Vinci, 2000; Zhou, O'Brien, & Heim, 2014), may resemble symptoms of mental disorders and confound diagnosis (Reardon & Factor, 2010). Nonetheless, these symptoms have serious effects on athletes' wellbeing, and the normality of the experience does not reduce the potentially dangerous repercussions. It is unclear the

extent to which these symptoms are due to or influenced by mental health, but they can be etiologies or direct symptoms of psychological problems (Armstrong & VanHeest, 2002).

Several factors contribute to the importance of studying athletes' mental health needs. There are sport-specific problems that complicate diagnosis in athletes, such as overtraining, injury, and sports-related performance anxiety (Patel, Omar, & Terry, 2010), which could confound the understanding of the mental health needs of this population. Even with significant advances in the technology of protective equipment, the kinesiology of physical training, and the methodology of coaching (Tripp, Stanish, Ebel-Lam, Brewer, & Birchard, 2007), injury is so common that it is often expected as a consequence of athletic participation, especially in the context of competitive sport (Weinberg, Vernau, & Horn, 2013). Season- or career-ending injury can cause significant stress (Neal et al., 2013), and physical symptoms of injury can be a source of considerable suffering and can precipitate mental health issues (Appaneal, Levine, Perna, & Roh, 2009). In addition to orthopedic injury, sport participants have a risk of head trauma (Zuckerman et al., 2015). Concussion, the "invisible injury" (Bloom, Horton, McCrory, & Johnston, 2004, p. 519), can contribute to lingering headaches, depression, and concentration difficulties affecting athletic, academic, and social functioning (Gulliver, Griffiths, & Christensen, 2012; Kontos, Elbin, Appaneal, Covassin, & Collins, 2013). These risk-factors highlight the need for further understanding of the mental health needs of athletes.

In addition, athletes make significantly more high-risk lifestyle choices than non-athletes, exhibiting behaviors that represent the leading causes of morbidity and mortality

for young adults more often than non-athlete peers (Nattiv, Puffer & Green, 1997). For example, student-athletes evidence higher rates of binge drinking and gambling than non-athletes (Geisner, Grossbard, Tollison, Larimer, 2012). Substance use is a major area of mental health concern for the population of student-athletes who participate in sport. In general, alcohol-related consequences pose a serious public health problem for college students (Grossbard et al., 2016). Individuals who participate in sports consume more alcohol than non-athlete peers, and athletic culture can contribute to the acceptability of hazardous alcohol consumption to improve team cohesion (Zhou, O'Brien, & Heim, 2014). Athletes are more likely to participate in binge drinking, which is linked to more severe mental health concerns, including suicidal impulsivity and depression (Rao & Hong, 2016).

For individuals who participate in organized sport, there are costs and benefits of athletic participation. The stress student-athletes experience is “multi-dimensional and dynamic” and can be experienced in both positive and negative ways, which can shift over time and in different situations (Kimball & Freysinger, 2003, p. 134). Some evidence shows participation in collegiate sports is associated with greater physical and emotional health benefits (Shores, Becker, Moynahan, Williams & Cooper, 2015), such as buffering stress (Hudd et al., 2000; Kimball & Freysinger, 2003) and improving resiliency (Khodabakhshi & Khodae, 2011), but athletes face unique demands imposed by coaches, fans, family, peers, and/or themselves (Mann, Grana, Indelicato, O'Neill, & George, 2007). Student-athletes are expected to manage a number of responsibilities, including academic expectations and performance expectations, which often amalgamate to influence serious mental health issues (Carodine, Almond, & Gratto, 2001).

Many athletes report that they utilize training as a coping mechanism (Stevens, Loudon, Yow, Bowden, & Humphrey, 2013). For individuals with ADHD, sport can be beneficial for stress and energy release and increasing social support (Homan, Dunn, & Holt, 2014). Organized sport provides an ideal context for exposure to facing and overcoming adversity (Galli & Vealey, 2007). The health benefits of organized sport participation can be physical, psychological, and social, fulfilling a need for belongingness and physical activity (Eime, Young, Harvey, Charity, & Payne, 2013), while contributing to overall development of work ethic, creativity, self-esteem, confidence and more (Chen, Snyder, & Magner, 2010).

In contrast, the positive influence of sport participation can be counteracted by unique stressors. Athletes may experience pressure to perform, suffer injury, or struggle with time management difficulties, and they often tend to participate in high-risk behaviors (Papanikolaou, Nikolaidis, Patsiaouras, & Alexopoulos, 2003; Rao & Hong, 2016; Wilson & Pritchard, 2005). At the NCAA level, student-athletes dedicate as much time to practice, training, travel, and competition as one would to a full-time job (Watson, 2003). Per NCAA mandates, athletes are limited to 20 countable hours of athletic activities a week, but elite athletes argue that they spend more than twice that amount of time dedicated to their sport throughout the school year (Wolverton, 2016). One study found that individuals who *did not* participate in sports earned significantly higher grades than sport participants (Pathan, Ansari, & Iqbal, 2010). Fatigue, internal and external pressure, and high expectations can result in a myriad of negative mental health effects for athletes, including anxiety, emotional and physical exhaustion, depression,

depersonalization, and diminished self-esteem (Cumming, Smith, Grossbard, Smoll, & Malina, 2012; Rice et al., 2016).

Compounding these risk factors, student-athletes have less positive attitudes about seeking services for mental health complaints than non-athletes (Watson, 2005) and are significantly underrepresented in mental health treatment facilities, such as campus counseling centers (Watson & Kissinger, 2007). In addition, athletic culture tends to promote stigma against mental health problems, valuing mental toughness (i.e., the ability to cope better than one's opponents, and stay focused, confident, and in control under pressure) and strength, and minimizing any sign of potential weakness (Connaughton, Wadey, Hanton, & Jones, 2008; Reardon & Factor, 2010). Athletes are socialized at a young age to understand the normative cultural ethos of sport is to "be tough and play through the pain" (Wiese-Bjornstal, 2010, p. 104). Though athletes are referred to campus counseling 10% more often than non-athletes, they utilize the mental health services substantially less than their non-athlete peers (Pinkerton, Hinz, Barrow, 1989). This phenomenon may be due to stigma within the ranks of the athletic hierarchy, as some coaches view their athletes as weak for seeking psychological services (Gulliver, Griffiths, & Christensen, 2012). Many athletes express concern that their role on their team may be affected if their coaches become aware of their mental health struggles (Neal et al., 2013). Watson (2006) suggested that mental health providers could address athletic coaches to influence athletes' perceptions about mental health treatment.

The Coach-Athlete Relationship

In addition to fulfilling academic demands and maintaining a variety of responsibilities, collegiate athletes must manage relationships with teammates, coaches,

family members, and peers. The relationship between athlete and coach is a unique component of sport participation, in which both coaches and athletes have responsibilities to uphold. Coaches generally provide feedback, discipline, and organization, while athletes are expected to perform at a high level physically and mentally, respect the decisions of the coach, and facilitate relationships within the team (Holden, Forester, Keshock & Pugh, 2015). Distinct components of the coach-athlete relationship, such as the physical aspects of stretching and skill development and the highly emotionally charged context of sport competition, can lead to deep friendships (Bergmann Drewe, 2002). Large amounts of time together can lead to interpersonal connections, but can also contribute to problems (Heird & Steinfeld, 2013). Indeed, the opportunity for a high volume of interaction does not necessarily correlate with progress in the quality or efficacy of the communication between the coach and athlete (Carron & Chelladurai, 1978).

The coach-athlete relationship has been defined as the “situation in which a coach’s and an athlete’s cognitions, feelings, and behaviors are mutually and causally interrelated” (Jowett & Poczwardowski, 2007, p. 4). This definition reflects the dynamic and interactive nature of the relationship between coach and athlete and the contributory effect that the emotions, thoughts, and behaviors of one have on the other. Jowett and Poczwardowski (2007) detailed an integrated model of relationship quality between coach and athlete when they extracted four components central to the coach-athlete relationship from the models outlined by Wylleman (2000), Jowett (2005), LaVoi (2004), and Poczwardowski (1997). They identified closeness, commitment, co-orientation, and complementarity as the key elements of relationship quality within the dynamic between

coach and athlete. Closeness reflects the degree of mutual trust, care, and respect between athlete and coach. For example, in a coach-athlete relationship characterized by closeness, both coach and athlete feel cared for, liked, valued, and trusted. Commitment is the duo's dedication to maintain their interdependent relationship over time, evidenced by intent to maintain the interpersonal relationship over time (Jowett & Ntoumanis, 2004). Co-orientation reflects the degree to which the relationship has established common ground and common direction, such as setting mutual objectives or goals. Complementarity means coach and athlete demonstrate behaviors that are reciprocal, which is often demonstrated by accepting each other's roles and responsibilities. The coach-athlete relationship is a critical component in the life of athletes that influences not only their sport performance, but also their physical and psychological development (Jowett & Cockerill, 2003).

Traditionally, coaches define the strategies for how their athletes will optimize performance. The power dynamic often extends beyond the realms of physical training, into diet and weight control, and even into other interpersonal relationships (Tomlinson & Yorganic, 1997). Coaches establish practice plans and set line-ups to decide who will start, who will play, and who will sit out. They often play a role in determining the future of the athletes they work with by creating opportunities or taking them away. The relationship between a coach and an athlete generally plays a central role in the latter's physical and psychosocial development (Jowett & Cockerill, 2002). As athletes rely on coaches to impart knowledge, and coaches rely on athletes to acquire expertise, the duo is dependent on one another to accomplish performance goals (Lorimer & Jowett, 2009). Per Vealey, Armstrong, Comar, and Greenleaf (1998). The power dynamic between coach

and athlete is centrally important to the quality of athlete's sport experience.

Unfortunately, this important relationship is relatively understudied (Jowett & Wylleman, 2006).

The power dynamic within the coach-athlete relationship is distinctive (Jackson, Grove, & Beauchamp, 2010; Norman & French, 2013). In fact, some researchers have drawn parallels between the coach-athlete relationship and the social traditions that govern parent-child relationships (Bergmann Drewe, 2002, Mastroleo, Marzell, Turrisi & Borsari, 2012). A coach can become an attachment figure, and wields significant power over an athlete's sense of safety, trust, and fulfillment of needs (Davis & Jowett, 2014; Stirling & Kerr, 2013). Often, coaches serve the role of mentor, teacher, and organizer (Mastroleo, Marzell, Turrisi, & Borsari, 2012, Short & Short, 2005). Athletes can see their coach as the "gatekeepers to their athletic performance," determining playing time, directing training, and providing opportunities to optimize performance. In addition, athletes can experience frustration when they perceive that their needs (i.e., support, attention, guidance) are not being met (Norman & French, 2013, p. 19). Athletes are more likely to recognize themselves as skillful and capable if they feel that they are competent, capable, and effective when they relate to their coach (Felton & Jowett, 2013), and the three components of the coach-athlete relationship (commitment, co-orientation, and complementarity) are positively related to athletes' perceptions of their own competence and autonomy (Choi, Cho, & Huh, 2013). It is also true that coaches can be a source of athletes' concerns and doubts about their own ability to present themselves in a desired way, which has been linked to performance anxiety (Lorimer, 2014). The decisions coaches make, to affect playing time, adjust tactical strategy, and provide

feedback about performance, play a key role in producing athlete anxiety (Dunn & Nielson, 1996). In addition, coaches can act as a gatekeeper to seeking mental health services, recommending or discouraging treatment (Gulliver, Griffiths, & Christensen, 2012).

Coaches can play a large role in alleviating or exacerbating mental illness. For instance, involving a coach in treatment helps athletes set goals to avoid drinking alcohol (Chow et al., 2015), and coaches' policies on alcohol use influence team drinking behaviors (Lewis, 2008). Armstrong and Oomen-Early (2009) found that the positive influence of a supportive coach and team network may be the most profound protective factor against mental health symptoms college athletes can have.

In healthy coach-athlete relationships, the behaviors that coaches exhibit are instrumental in developing driven, proficient, and fulfilled athletes and teams (Olympiou, Jowett, & Duda, 2008). Athletes can satisfy their basic needs of autonomy, competence, and relatedness when coaches create an environment in which athletes feel they can openly contribute to training sessions and have input into what they do (Felton & Jowett, 2013). In a relationship where athletes feel they have both a long-term committed relationship and a level of understanding from their coach, they are less likely to fear failure, which can contribute to improved performance, ability to learn, satisfaction, and well-being (Sagar & Jowett, 2015). A supportive relationship between coach and athlete is associated with fewer antisocial behaviors, defined as voluntary behaviors intended to harm another person," and more pro-social behaviors, defined as voluntary behaviors performed to benefit or help another person" (Rutten et al., 2011).

In contrast to the myriad of positive effects of a strong coach-athlete relationship, problems within the relationship can be deleterious. An athlete's perception of problems with their coach causes psychological distress (Gearity & Murray, 2011). There are several coaching behaviors that can negatively impact relationship building skill sets of athletes, including poor communication, lack of support, and negative attitude (Nicolas, Gaudreau, & Franche, 2011). Research shows that coach behaviors matter more to athletes than coaches' expressed attitudes (Shields, LaVoi, Bredemeier, & Power, 2007). Essentially, the way coaches act is more impactful than the attitudes they share. The quality of the coach-athlete relationship has been directly and indirectly linked to athlete burnout (Isoard-Gautheru, Trouilloud, Gustafsson, & Guillet-Descas, 2016). Severe practice conditions are an important cause of burnout, suggesting the behaviors, communication styles, and decisions of coaches directly influence the development of mental health problems in athletes (Vealey, Armstrong, Comar, & Greenleaf, 1998). Conflict with a coach was a significant independent predictor of specific and severe mental health disorders, such as eating psychopathology, among athletes (Shanmugam, Jowett, & Meyer, 2014).

Athletes' perception of the coach-athlete relationship is associated with autonomy, competence, and relatedness, which are conducive to psychological wellbeing (Choi, Cho, Huh, 2013), implying that perceived problems in this relationship will be detrimental to the mental health of athletes. The Student-Athlete Relationship Inventory (SARI) assesses athletes' perceptions of problems in the coach-athlete relationship. The instrument assesses problematic themes (i.e., lack of support, pressure to perform) within

this relationship. Initial validation of the SARI suggests that it measures unique dimensions of overall happiness in the coach-athlete relationship (Donohue et al, 2007a).

Sport Level Differences

Pinkerton, Hinz, and Barrow (1989) defined student-athletes as “students whose matriculation was solicited by a member of the athletics staff or other representative of athletics interests with a view toward the student’s ultimate participation in the intercollegiate athletics program.” Their narrow definition, gleaned from the 1986-86 *NCAA Manual of the National Collegiate Athletic Association*, did not include students who participate in intramural athletics nor athletes who compete against other colleges at the club level outside the jurisdiction of the NCAA (p. 218). The definition also excludes “walk-on” athletes who did not matriculate at the request of a representative of the athletics department. Within the literature, “student-athletes” are not always so narrowly defined; studies include youth and high-school athletes, and recreational sport participants (see Davis & Jowett, 2014; Eisenbarth & Petlichkoff, 2012).

There is a dearth of knowledge regarding the similarities and differences between intercollegiate, club, and intramural athletes, and there is limited evidence to suggest that there are differences between the groups. In studies that have identified minor differences between sport levels, all levels of sport participation differ significantly from non-athletes, such as Marzell, Morrison, Mair, Moynihan, and Gruenewald, (2015) who reported that though drinking patterns differ slightly between club/intramural and varsity athletes, individuals at all levels of collegiate sport participation in their study exhibited more high-risk drinking behaviors than non-athletes, suggesting that individuals who participate at any level of organized sport at the collegiate level represent a unique

demographic within the college student population. At the very least, existing research suggests the aforementioned athlete groups have important commonalities that need to be examined more closely. Examining the differences in the coach-athlete relationships reported by NCAA and non-NCAA level sport competitors is an important area for future research (Peterson & Greenleaf, 2014)

There is variance in coaching structure at the different sport levels of collegiate sport participation. At the NCAA level, intercollegiate sports are characterized as having professional, often full-time, coaches and highly structured interaction, including regulations regarding time coaches are allowed to spend with athletes. At the club level, coach-athlete relationships are less formalized. At the intramural level, athletes often rely on a peer serving as a team captain for organization and direction as opposed to a formal coach. The SARI assesses whether various behaviors common in the coach-athlete relationship are viewed as problematic by the athlete. The measure does not require athletes to name their coach, but if athletes endorse problems, it may be assumed they identify a coach-figure in their lives, such as the team captain.

A great amount of research has examined the need for interventions targeting NCAA athletes, but some studies indicate that it may be just as important to target club and intramural athletes (Donohue et al., 2016). Primack, Fertman, Rice, Adachi-Mejia, and Fine found that participants in club and intramural sports had higher odds of reporting waterpipe tobacco smoking (defined as hookah, narghile, argihile, or shisha-pipe) than other college students (2010). In one study, NCAA athletes were least likely to report drinking alcohol in the past 30 days compared to intramural and club athletes. In addition, intramural athletes were more likely to report having experienced physical

injury as the result of alcohol consumption than club or NCAA level athletes (Andes, Poet, & McWilliams, 2012). It is important to note that NCAA athletes may underreport substance use (Buckman, Farris, & Yusko, 2013), due to potentially harsh repercussions from their college and the NCAA. Nonetheless, these results suggest a need to address the drinking patterns at all sport levels. For example, intramural athletes endorse drinking significantly more per week and binge-drinking more often than NCAA athletes, suggesting a prevalence of high-risk drinking behaviors amongst intramural athletes (Andes, Poet, & McWilliams, 2012; Barry, Howell, Riplinger, & Piazza-Gardner, 2015).

Gender

The examination of gender in sport is influenced by popular opinions about the roles and capabilities of males and females. The belief that men are physically stronger than women is commonly accepted, and it is often considered more natural for men to compete in sport (Roth & Basow, 2004). As more women enter the athletic arena, the study of gender-based differences becomes more relevant. Surprisingly, there has been relatively minimal research examining differences in mental health in male and female athletes, and the results are mixed.

In the general population, women are diagnosed with anxiety and depressive disorders two times more often than men, and are diagnosed with eating disorders 6 to 10 times more often than men. In sport, Schaal et al. (2011) observed a similar pattern, as female athletes were more likely to be diagnosed with a psychological disorder than their male counterparts. Among university students, males evidence more substance use behaviors than females (Cranford, Eisenberg, & Serras, 2009). Further research is

necessary to examine the impact of gender on mental health and substance use in student-athletes.

The social and interpersonal nature of the coach-athlete relationship may contribute gender-related variance. Recent research suggests there are cognitive differences in the ways males and females process supportive messages, which could directly affect how male and female athletes perceive the coach-athlete relationship. On average, females appear to think more deeply about the messages they receive (Burleson & Hanasono, 2010), and are less satisfied with support than males (Acitelli & Antonucci, 1994). Burleson et al. (2011) found that females are more able and motivated to process support than males. In the coach-athlete relationship, focus is often aimed at sport performance. Therefore, due to their enhanced ability to process incoming messages, female athletes may be more likely than males to perceive problems in the coach-athlete relationship if they sense a lack of support from their coach.

CHAPTER 3: The Present Study

The relationship between coach and athlete is a vital component of sport participation. With the amount of time spent together, and the interdependent dynamics of the affiliation, the connection has broad implications for the physical and mental health of athletes. Extant research on the coach-athlete relationship has focused primarily on performance, interpersonal dynamics, and psychological well-being, overlooking the potentially detrimental impact such a meaningful relationship could have on athlete mental health. The current study aims to examine the relationship between perceived problems in the coach-athlete relationship and mental health of college students who participate in organized sport.

H1: I hypothesize that a positive linear relationship would predict mental health and substance use, such that increases in problems in the coach-athlete relationship will predict increases in mental health problems and substance use.

H2: I hypothesize that there would be gender-related differences in mental health, substance use, and the coach-athlete relationship, such that female athletes will report more mental health symptoms and more perceived problems within the coach-athlete relationship than male athletes, and male athletes will evidence more substance use than female athletes.

Methods

Participants. Participants in this study are student-athletes ($n = 80$) from a larger study evaluating the effectiveness of a modified version of Family Behavior Therapy (FBT; Donohue & Allen, 2011) for the treatment of substance abuse and mental health of athletes. Eligibility requirements were the following: (a) at least 18 years of age; (b) compete in NCAA, intercollegiate club, or intramural sports; (c) endorse substance use in the previous four months or a history of negative consequences due to substance use; (d) expect to be enrolled in the university for at least 8 months after study consent, without any plans of an extended absence (i.e., greater than one month); (e) have at least one adult willing to participate in the participants' treatment; (f) agreed to participate in a treatment outcome study examining the effects of goal-oriented programming with athletes.

Athletes' ($n = 80$) ages ranged from 18 to 25 years old ($M = 20.14$, $SD = 1.46$). The sample was predominately non-Caucasian (61.2%), including 17 Black or African Americans (21.3%), 17 Latinos (20.0%), 11 Asian Americans or Pacific Islanders (13.8%), and 5 participants identified as "Other" (6.3%). There were 31 Caucasian participants (38.8%). The majority of the participants were NCAA athletes ($n = 47$; 58.8%), 11 were club athletes (13.8%), and 22 were intramural athletes (27.5%). The participants were 50.6% male ($n = 42$) and 49.4% female ($n = 41$).

Measures

Demographics Form. A demographics form was used to obtain information, including gender, age, ethnicity, sport, referral source, marital status, income, employment status, and educational level.

The Student-Athlete Relationship Instrument. The SARI is an assessment tool designed to measure specific problems in athletes' relationships with their coaches, teammates, family, and peers. This instrument consists of 71 items (e.g., It is a problem for me that at least one of my coaches has a negative attitude toward me) and uses a 7-point agreement scale (1 = extremely disagree, 7 = extremely agree), with higher scores indicating the athlete's perception of more problems in the relationship. The coach-athlete relationship construct was reviewed in the current analysis. The SARI-Coach scale is represented by 19 items pertaining specifically to athletes' perception of problems with their coaches. Initial psychometric evaluation of the SARI-Coach scale yielded high internal consistency (Coefficient alpha = .96; Donohue et al., 2007a). The sum of SARI-Coach items was utilized to estimate its total scale score (SARI-Coach Total). Cronbach's alpha was used to estimate the internal consistency of the SARI-Coach Total scale. The scale evidenced high internal consistency (Coefficient alpha = .93).

Symptom Checklist-90-Revised. The Symptom Checklist-90-Revised (SCL-90-R; Derogatis & Lazarus, 1994) is a widely used screening tool designed to measure a broad range of symptoms of psychological problems and psychopathology. The assessment provides an overview of symptom presentation and the severity of symptoms over the past week. This instrument consists of 90 items that are rated on a 5-point severity scale (0 = not at all, 4 = extremely) with higher scores indicating more psychological symptoms and distress. The SCL-90-R measures nine primary symptom domains, including Somatization (SOM), Obsessive-Compulsive (O-C), Interpersonal Sensitivity (I-S), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety

(PHOB), Paranoid Ideation (PAR), and Psychoticism (PSY). Three Global Indices measure overall psychological distress (Global Severity Index; GSI), symptom intensity (Positive Symptom Distress Index; PSDI), and total number of self-reported symptoms (Positive Symptom Total; PST). The internal consistency coefficients for the nine symptom dimensions range from low (Psychoticism; Coefficient alpha = .77) to high (Depression; Cronbach's $\alpha = .90$) by two sources (Derogatis, Rickels, & Rock, 1976; Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988).

Beck Depression Inventory–II. The Beck Depression Inventory-II (BDI-II) utilizes the criteria for major depressive disorder from the DSM-IV to assess depressive symptoms over the previous seven days. The measure consists of 21 items that assess the intensity of depression in clinical and non-clinical populations and is the most widely used method of assessing depression in adolescents and adults. The BDI-II yields high reliability in outpatients ($n = 500$; Coefficient alpha = .92) and college students ($n = 120$; Coefficient alpha = .93). Additionally, the BDI-II's test-retest reliability is high at .93 ($n = 26$; Beck, Steer, & Brown, 1996).

Timeline Followback. The Timeline Followback (TLFB; Sobell, Brown, Leo, & Sobell, 1996; Sobell, Sobell, Klajner, Paven, & Basian, 1986) is a self-report measure that assesses daily patterns and frequency of use of alcohol, marijuana, and other illicit substances. Using a month-by-month calendar marked with memorable events to enhance recall (e.g., holidays, work schedule), participants provide retrospective estimates of their daily substance use over a specified time period. The TLFB has been validated for relative precise estimates up to 24 months prior to the interview date, including the

specific substance(s) and the amount used. The TLFB yields excellent psychometric support (see Carey, 1997; Donohue et al., 2004a).

Procedure

When participants were determined to meet preliminary criteria and consented to participate in the larger study, they were scheduled for a pre-treatment assessment with a trained assessor to gather information on demographics, mental health, substance use, sport performance, HIV risk behavior, and relationships. The pre-treatment assessment lasted approximately 2.5 hours, and participants were compensated for their time with a \$25 gift card or cash. Of a relatively large battery of tests and measures administered, only five were utilized in this study (see measures section above).

Following data collection, the dataset was de-identified and utilized for secondary analysis in this study. This protocol is consistent with the ethical guidelines established by the American Psychological Association and was approved as exempt research by the Institutional Review Board for the protection of human participants at the University of Nevada, Las Vegas.

CHAPTER 4: Analysis

Results

Descriptive Results. Table 1 shows means and standard deviations of the study variables and demographic characteristics.

Table 1

Means and Standard Deviations of Study Variables (n = 80)

Measure	M	SD	Min	Max	Skewness		Kurtosis	
					Statistic	SE	Statistic	SE
SARI-Coach Total	9.55	4.26	4.00	19.81	.42	.27	-.79	.53
BDI total	10.60	8.67	.00	33.00	.71	.27	-.42	.53
SCL-90-R GSI	.55	.52	.02	2.33	1.57	.27	2.26	.53
TLFB # days alcohol use	12.76	14.96	0	107	3.97	.27	20.77	.53
TLFB # days marijuana use	11.79	26.62	0	118	2.86	.27	6.62	.53
TLFB # days binge drinking	3.53	3.99	0	23	2.14	.27	6.56	.53

Normality. The data were inspected for normality utilizing skew and kurtosis statistics (see Table 1). The main study variable, SARI-Coach Total score, followed a reasonably normal distribution. Other variables, particularly the TLFB number of days using marijuana and the SCL-90-R GSI, were slightly skewed. No transformations were performed to normalize the data, as the distribution of scores was representative of what would be expected of the population.

Outliers. The data were inspected for outliers. Using leverage statistics, no significant outliers met criteria for removal from analysis (Tabachnick & Fidell, 2007). Therefore, no cases were removed.

Preliminary Analysis. An ANOVA was conducted to assess potential baseline differences between sport levels (i.e., NCAA = 1, Club = 2, Intramural = 3) in terms of problems endorsed in the coach-athlete relationship (SARI-Coach Total). The results indicated that there were no significant baseline differences between sport levels ($p > .05$).

Primary Analyses. The primary analyses involved examination of linear relationships between SARI-Coach Total Score (i.e., Problems in the Coach Athlete Relationship) and measures of mental health (i.e., BDI total score, GSI of the SCL-90-R, TLFB days of alcohol use, TLFB days of marijuana use, and TLFB days of binge drinking). Five separate hierarchical multiple regressions were employed to test for the effect of sport level and gender in each model. It was expected that the first level of each hierarchical multiple regression (i.e., sport level and gender) would not predict BDI and SCL-90-R GSI scores, TLFB days of alcohol and marijuana use, or TLFB days of binge drinking, but in the second level, SARI-Coach Total Scores would predict BDI and SCL-90-R GSI scores, TLFB days of alcohol and marijuana use, and TLFB days of binge drinking. These latter relationships were expected to be positive. That is, more problems in the coach-athlete relationship would predict more reports of mental health problems and substance use.

Hypothesis 1: The coach-athlete relationship. The results of the hierarchical multiple regression analyses are shown in Table 2. Neither gender (male = 1, female = 2) nor sport level were significant predictors of any of the study variables (BDI, SCL-90-R, TLFB days drinking, TLFB days using marijuana, and TLFB days binge drinking). In the second level of analysis, problems in the coach-athlete relationship (SARI-Coach Total)

was a significant predictor of mental health variables (BDI, SCL-90-R), but not a significant predictor of substance use (TLBF days drinking, TLFB days using marijuana, or TLFB days binge drinking).

BDI. The first level of the hierarchical multiple regression was not statistically significant and showed that sport level and gender did not predict depression symptoms (BDI total score), $F(2,80) = .392, p > .05, R^2 = .010$, adjusted $R^2 = -.016$. However, the second model predicted variance in BDI total score, $F(3,80) = 10.010, p < .05, R^2 = .283$, adjusted $R^2 = .255$, after controlling for reported problems in the coach-athlete relationship (SARI-Coach Total). The change of R^2 between the first and second models ($\Delta R^2 = .273, p < .05$) was statistically significant. The positive beta weight for SARI-Coach Total for BDI total score ($\beta = .524, p < .05$) indicates that the SARI-Coach Total predicts an increase in BDI scores. Therefore, these results indicate that problems in the coach-athlete relationship predict greater depressive symptoms.

SCL-90-R. The first level of the hierarchical multiple regression was not statistically significant and showed that sport level and gender did not predict variance in overall severity of mental health symptoms (SCL-90-R GSI), $F(2,80) = 2.374, p > .05, R^2 = .058$, adjusted $R^2 = .034$. However, the second model predicted variance in SCL-90-R scores, $F(3,80) = 10.894, p < .05, R^2 = .301$, adjusted $R^2 = .273$, after controlling for reported problems in the coach-athlete relationship (SARI-Coach Total). The change of R^2 between the first and second models ($\Delta R^2 = .243$) was statistically significant. The positive beta weight for SARI-Coach Total scores was associated with SCL-90-R GSI scores ($\beta = .494, p < .05$) indicating that SARI-Coach Total scores

predicted greater SCL-90-R scores. These results indicate that problems in the coach-athlete relationship are significant predictors of mental health problems on the SCL-90-R.

TLFB days drinking. The first regression model was not statistically significant and showed that sport level and gender did not predict variance in the number of days drinking (TLFB), $F(2,80) = .498, p > .05, R^2 = .013, \text{adjusted } R^2 = -.013$. The second model also did not predict variance in TLFB days drinking, $F(3,80) = 1.023, p > .05, R^2 = .039, \text{adjusted } R^2 = .001$, after controlling for reported problems in the coach-athlete relationship (SARI-Coach Total). The change of R^2 between the first and second models ($\Delta R^2 = .026$) was not statistically significant. The beta weight for SARI-Coach Total associated with TLFB days drinking ($\beta = .162, p > .05$) indicated that it did not predict number of days drinking. These results indicate that problems in the coach-athlete relationship are not significant predictors of days drinking.

TLFB days using marijuana. The first regression model was not statistically significant and showed that sport level and gender did not predict the variance in days using marijuana (TLFB), $F(2,80) = 2.007, p > .05, R^2 = .050, \text{adjusted } R^2 = .025$. The second model also did not predict the variance in TLFB days using marijuana, $F(3,80) = 1.369, p > .05, R^2 = .051, \text{adjusted } R^2 = .014$, after controlling for reported problems in the coach-athlete relationship (SARI-Coach Total). The change of R^2 between the first and second models ($\Delta R^2 = .002$) was not statistically significant. The beta weight for SARI-Coach Total scores associated with TLFB days using marijuana ($\beta = .042, p > .05$) indicated that SARI-Coach Total scores did not predict marijuana usage. These results indicate that problems in the coach-athlete relationship are not a significant predictor of marijuana use.

TLFB days binge drinking. The first regression model was not statistically significant and showed that sport level and gender did not predict the variance in days of binge drinking (TLFB), $F(2,80) = .749, p > .05, R^2 = .019, \text{adjusted } R^2 = -.006$. The second model also did not predict variance in TLFB days binge drinking, $F(3,80) = .853, p > .05, R^2 = .033, \text{adjusted } R^2 = -.006$, after controlling for reported problems in the coach-athlete relationship (SARI-Coach Total). The change of R^2 between the first and second models ($\Delta R^2 = .013$) was not statistically significant. The beta weight for SARI-Coach Total scores that was associated with TLFB days of binge drinking ($\beta = .116, p > .05$) indicated that SARI-Coach Total scores did not predict binge drinking. These results indicate that problems in the coach-athlete relationship are not a significant predictor of binge drinking.

Table 2

Hierarchical Multiple Regression for Mental Health Symptoms and Substance Use (n = 80)

Predictor	Mental health symptoms and substance use									
	BDI total score		SCL-90-R GSI		TLFB # days drinking		TLFB # days marijuana use		TLFB # days binge drinking	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.01		.06		.013		.05		.02	
Gender										
Sport level										
Step 2	.27***		.24***		.026		<.01		.013	
SARI-Coach		.52***		.49***		.16		.04		.12

*** $p < .05$

Hypothesis 2: Gender. It was expected that males and females would experience different mental health, substance use, and relationship problems. To test this hypothesis, MANOVA was performed. No significant differences were demonstrated $F(5, 74) =$

1.12, $p > .05$, Wilk's $\Lambda = .36$, suggesting male and female athletes experience similar problems in mental health, in substance use, and in coach-athlete relationships.

CHAPTER 5: Discussion

The relationship between coaches and athletes is critically important in regards to the physical, psychological, and emotional development of athletes (Jowett & Cockerill, 2003). The present study found that athletes' perception of problems in their relationship with coaches predicted mental health difficulties, but not substance use.

Mental Health

Overall, the results suggest that athletes' perception of problems in their relationship with coaches is associated with the experience of mental health problems. The impression of interpersonal conflict, lack of support, and disagreement within the coach-athlete relationship predicts an increase in symptoms of depression and mental health complaints overall. This adds to previous research linking athletes' perception of an emotionally abusive or unsupportive environment to negative psychological consequences, such as low mood and self-esteem, anger, and anxiety (Stirling & Kerr, 2013). Interpersonal stress predicts the onset of mental health problems (Vrshek-Schallhorn et al., 2015). However, freedom from stress and worry are main contributors to overall life satisfaction in collegiate athletes (Surujlal, Van Zyl, & Nolan, 2013). One explanation of the current findings may be that when athletes perceive high levels of problems in the coach-athlete relationship, they are more likely to experience an increase in stress and worry, and therefore increased mental health problems and decreased life satisfaction. Coach-athlete relationships that are perceived by athletes to be less problematic allow athletes to feel supported, contributing to greater life satisfaction and less mental health problems.

These findings support Davis and Jowett's (2014) assertion that it is valuable to identify interpersonal conflicts in the coach-athlete relationship. Coaches can facilitate mental health treatment and play an important role in the development of athletes' wellness (Brown & Blanton, 2002). However, if there are problems in the coach-athlete relationship, athletes may not have as ready access to these benefits. As gatekeepers, coaches can facilitate access or block athletes from receiving the treatment they need. The current findings suggest that coaches can also increase impairment by providing insufficient support. The results of this study imply that athletes who lack a strong relationship with their coach are at a higher risk for mental health problems. In addition, these athletes may find it more difficult to receive support because they are unable to approach their coach for assistance.

Within sport culture, there is a stigma against seeking mental health intervention (Donohue et al., 2015), and athletes are less likely to utilize services than non-athlete peers. Often, mental health problems are seen as antithetical to the culturally honored tradition of mental toughness (Bauman, 2016). Athletes may fear reporting their mental health concerns because they believe their coach may minimize their role on the team (Neal et al., 2013). These results suggest that evaluating the athlete's perception of the relationship with their coach can be used to circumvent athletes' efforts to underreport impairment and to improve screening of mental health problems in athlete populations. Utilizing this strategy to assess mental health provides a unique perspective on the athlete's functioning, and may be an innovative screening tool to detect mental health difficulties.

In addition to the direct application to athletes, the findings of this study have implications for the development of coach education programs. Jones, Glintmeyer, and McKenzie (2005) questioned the adequacy of coach education programs, as coaches are often not equipped with the skills to handle complex issues that are relevant to mental health (Watson, 2006). Due to the connection between the coach-athlete relationship and mental health, the findings in this study support a need to shift some of the focus of coach education to relationship enhancement, rather than an exclusive spot-light on sport performance (Erickson & Côté, 2016). Helping coaches build relationships, mediate problems with their athletes, and understand mental health could have substantial implications for athlete development.

Substance Use

The results of this study suggest problems in the coach-athlete relationship are not predictive of substance use. Along these lines, this study appears to be the first to explore the influence of the coach-athlete relationship on substance use. Previous research evaluating coaches' influence on athlete drinking behavior mainly addressed the role of injunctive norms, that is, the perception of others' approval of substance use (Seitz, Wyrick, Rulison, Strack, & Fearnow-Kenny, 2014). For example, Mastroleo, Marzell, Turrisi, and Borsari (2012) found athletes' perceptions of their coaches' beliefs about drinking influences alcohol consumption, but the study did not explore the influence of coach-athlete relationship dynamics on drinking behaviors. They stated that some voice concern about dual relationship if coaches play a role in addressing substance use. The results of the current study suggest that the relationship is not associated with substance

use; therefore, coaches should play a role in establishing team rules and guidelines limiting substance use with their athletes.

Sport Level

Club and intramural athletes are often overlooked by campus officials when allocating resources for athlete substance abuse prevention and mental health intervention implementation (Nelson & Wechsler, 2001). Therefore, a secondary aim of the current study was to explore whether athletes who participate at different sport levels (i.e., NCAA, club, intramural) report similar levels of problems in the coach-athlete relationship. The results suggest participants at different levels of collegiate sport endorse similar levels of problems in the coach-athlete relationship. This finding is consistent with Donohue et al. (2016), supporting the study of intramural and club competitors as student-athletes in addition to NCAA-sanctioned participants. Programs should be developed to address the needs of the growing population of student-athletes at all levels of collegiate competition (Andes, Poet, & McWilliams, 2012).

Gender

Finally, this study examined gender differences in three areas: experience of problems in the coach-athlete relationship, endorsement of mental health problems, and report of substance use. The results of this study suggest that males and females have similar experiences of mental health, substance use, and problems in the coach-athlete relationship. These findings continue to support the gender similarities hypothesis (Hyde, 2005), which suggests that males and females evidence more psychological similarities than differences. The gender similarities hypothesis was developed following a large meta-analysis of gender differences across a number of psychological constructs. The

analysis revealed very few actual disparities between males and females, and suggested that researchers tend to report differences with small to non-existent effect sizes. The results of the current study are also consistent with previous research in the context of sport psychology supporting the same claim (e.g., Gill & Kamphoff, 2010; Weinberg, Vernau, & Horn, 2013). Sport is a domain traditionally separated by gender, but there is growing interest in gender convergence in sport, particularly in drinking behaviors amongst athletes (Zhou, O'Brien & Heim, 2014). Despite wide-spread beliefs that males and females differ physically and psychologically, there is a consistent lack of academic support sustaining the myth of psychological gender differences amongst athletes.

Limitations and Future Directions

As in all studies, there were some limitations in the current study. First, self-report data were used in the present analyses, and therefore biases may be present, and transfer to actual behavior may not be completely accurate. Though steps were taken to assure participants that their responses would remain confidential, student-athletes may fear harsh repercussions for endorsing sensitive behaviors, such as substance use, and may have underreported their actual use. However, athletes may be more motivated than other populations to improve their own performance, which could prompt more honest reporting.

Second, the sample was obtained from a relatively small number of college students at a university in the Southwestern United States. Therefore, generalizations to other populations should be made with caution. The sample was ethnically diverse, with a majority of participants endorsing non-Caucasian ethnic backgrounds. This reflects the population of this particular university, one of the most diverse colleges in the United

States, but it may not reflect the population of college students as a whole. In addition, data were collected from a larger study of participants who endorsed substance use in the previous four months. This restriction of range may also impact the generalizability of the results, though 81.4% of college students endorse alcohol use (American College Health Association, 2008). It is possible that athletes who do not report alcohol or drug use may experience differences in their relationship with their coaches and mental health symptoms.

Third, participants were asked to identify problems with a coach, but no data identifying which coach was chosen were collected. The lack of temporal grounding regarding which coach the athlete is experiencing problems with limits the degree of analysis. For example, it is uncertain if athletes were reporting problems with current coaches or coaches from their past. It is also unclear if athletes were referring to head coaches or assistant coaches. Without this information, the inferences of this study may be limited. In addition, only athletes' perceptions of *problems* in the relationship were measured. No data were collected about positive influences of the coach-athlete relationship. It is possible that a strong relationship could serve as a protective factor against mental health problems, but that analysis is beyond the scope of this study. Future research should continue to explore the nature of the coach-athlete relationship in more depth.

In addition, this study focused solely on *athletes'* perceptions of problems in the coach-athlete relationship. Due to the multi-faceted and interdependent nature of this relationship, future research should evaluate coach perceptions of problems, in addition to athletes' reports. Exploration of coaches' perceptions of problems in their relationships

with athletes could assist in cross validating the current findings, and further develop the understanding of how the coach-athlete relationship dynamics influence mental health.

Finally, one potential important interaction overlooked in this study is the examination of how the gender of each member of a coach-athlete dyad impacts athletes' perceptions of problems. Researchers have evaluated the relationship between male coaches and male athletes, male coaches and female athletes, female coaches and male athletes, and female coaches and female athletes. Athletes demonstrate inconsistent levels of empathic accuracy (i.e., ability to *accurately* perceive another's thoughts and feelings) when working with different gender coaches. For example, female athletes demonstrate higher empathic accuracy when working with male coaches than male athletes, but demonstrate lower empathic accuracy with working with female coaches than male athletes (Lorimer & Jowett, 2009). This could be salient when assessing athletes' perceptions of problems in the coach-athlete relationship, as the accuracy of their evaluation could be dependent on this gender interaction. It was not possible to examine these possible interactions in the current study, because athletes did not identify which coach they were referring to in their survey responses. However, future research could provide further information about the implications of this interaction on the mental health of athletes.

REFERENCES

- About NIRSA. (2015, February 28). Retrieved June 13, 2016, from <http://nirsa.net/nirsa/about/>
- Acitelli, L. K., & Antonucci, T. C. (1994). Gender differences in the link between marital support and satisfaction in older couples. *Journal of Personality and Social Psychology, 67*, 688–698. doi:10.1037/0022-3514.67.4.688
- American College Health Association-National College Health Assessment Spring 2007 Reference Group Data Report (Abridged). (2008). *Journal of American College Health, 56*, 469-480.
- Andes, S., Poet, K. & McWilliams, S. (2012). The culture of high-risk alcohol use among club and intramural athletes. *Journal of American College Health, 60*, 446-561.
- Appaneal, R. N, Levine, B. R., Perna, F. M., Roh, J. L. (2009). Measuring postinjury depression among male and female competitive athletes. *Journal of Sport & Exercise Psychology, 31*, 60-76.
- Armstrong, L. E. & VanHeest, J. L. (2002). The unknown mechanism of the overtraining syndrome: Clues from depression and psychoneuroimmunology. *Sports Medicine, 32*, 185-209.
- Armstrong, S., & Oomen-Early, J. (2009). Social connectedness, self-esteem, and depression symptomatology among collegiate athletes versus nonathletes. *Journal of American College Health, 57*, 521-526.
- Barry, A. E., Howell, S. M., Riplinger, A., and Piazza-Gardner, A. K. (2015). Alcohol use among college athletes: Do intercollegiate, club, or intramural student athletes

- drink differently? *Substance Use & Misuse*, 50, 302-307.
doi:10.3109/10826084.2014.977398
- Bauman, N. J. (2016). The stigma of mental health in athletes: are mental toughness and mental health seen as contradictory in elite sport? *British Journal of Sports Medicine*, 50, 135-136. doi:10.1136/bjsports-2015-095570
- Beck, A. T., Steer, R. A., & Brown, G. (1996). *Beck Depression Inventory II manual*. San Antonio, TX: The Psychological Corporation.
- Bergmann Drewe, S. (2002). The coach-athlete relationship: How close is too close? *Journal of the Philosophy of Sport*, 174-181.
- Blanco, C., Okuda, M., Wright, C., Hasin, B., Grant, B., Liu, S., et al. (2008). Mental health of college students and their non-college-attending peers: results from the national epidemiologic study on alcohol and related conditions. *Archives of General Psychiatry*, 65, 1429-1437.
- Bloom, G. A., Horton, A. S., McCrory, P., & Johnston, K. M. (2004). Sport psychology and concussion: New impacts to explore. *British Journal of Sports Medicine*, 38, 519-521.
- Brown, D. R., & Blanton, C. J. (2002). Physical activity, sports participation, and suicidal behavior among college students. *Medicine & Science in Sports & Exercise*, 34, 1087-1096. doi:10.1097/00005768-200207000-00006
- Buckman, J. F., Farris, S. G., & Yusko, D. A. (2013). A national study of substance use behaviors among NCAA male athletes who use banned performance enhancing substances. *Drug and Alcohol Dependence*, 131, 50-55.
doi.org/10.1016/j.drugalcdep.2013.04.023

- Burleson, B. R., & Hanasono, L. K. (2010). Explaining cultural and sex differences in responses to supportive communication: A dual-process approach. In J. Davila & K. Sullivan (Eds.), *Support processes in intimate relationships* (pp. 291–317). New York, NY: Oxford University Press.
- Burleson, B. R., Hanasono, L. K., Bodie, G. D., Holmstrom, A. J., McCullough, J. D., Rack, J. J., & Rosier, J. G. (2011). Are gender differences in responses to supportive communication a matter of ability, motivation, or both? Reading patterns of situation effects through the lens of a dual-process theory. *Communication Quarterly*, *59*, 37-60. doi:10.1080/01463373.2011.541324
- Carey, K. B. (1997). Reliability and validity of the time-line follow-back interview among psychiatric outpatients: A preliminary report. *Psychology of Addictive Behaviors*, *11*, 26.
- Carron, A. V. & Chelladurai, P. (1978). Psychological factors and athletic success: An analysis of coach-athlete interpersonal behavior. *Canadian Journal of Applied Sport Sciences*, *3*, 43-50.
- Carodine, K., Almond, K. F., & Gratto, K. K. (2001). College student athlete success both in and out of the classroom. *New Directions for Student Services*, (93), 19.
- Chen, S., Snyder, S., & Magner, S. (2010). The effects of sport participation on student-athletes' and non-athletes students' social life and identity. *Journal of Issues in Intercollegiate Athletics*, *3*, 176-193.
- Chow, G. M., Donohue, B., Pitts, M., Loughran, T., Schubert, K. N., Gavrilova, Y., & Diaz, E. (2015). Results of a single case controlled study of The Optimum Performance Program in Sports in a collegiate athlete. *Clinical Case Studies*, *14*,

191-209.

- Connaughton, D., Wadey, R., Hanton, S., & Jones, G. (2008). The development and maintenance of mental toughness: Perceptions of elite performers. *Journal of Sports Sciences, 26*, 83-95.
- Cranford, J. A., Eisenberg, D., & Serras, A. M. (2009). Substance use behaviors, mental health problems, and use of mental health services in a probability sample of college students. *Addictive Behaviors, 34*, 134–145.
doi:10.1016/j.addbeh.2008.09.004
- Cumming, S. P., Smith, R. E., Grossbard, J. R., Smoll, F. L., & Malina, R. M. (2012). Body size, coping strategies, and mental health in adolescent female athletes. *International Journal of Sports Science & Coaching, 7*, 515-526.
- Davis, L., & Jowett, S. (2014). Coach–athlete attachment and the quality of the coach–athlete relationship: implications for athlete’s well-being. *Journal of Sports Sciences, 32*, 1454-1464.
- Derogatis, L. R. & Lazarus, L. (1994). *Symptom Checklist 90–R: Administration, scoring, and procedures manual* (3rd ed.). Minneapolis, MN: National Computer Systems.
- Derogatis, L. R., Rickels, K., & Rock, A. (1976). The SCL–90 and the MMPI: A step in the validation of a new self–report scale. *British Journal of Psychiatry, 128*, 280–289.
- Donohue B., Allen D. A. (2011). *Treating adult substance abuse using family behavior therapy: A step by step approach*. New York, NY: John Wiley.
- Donohue, B., Azrin, N. H., Strada, M. J., Silver, N. C., Teichner, G., & Murphy, H (2004a). Psychometric evaluation of self- and collateral timeline follow-back

- reports of drug and alcohol use in a sample of drug-abusing and conduct-disordered adolescents and their parents. *Psychology of Addictive Behaviors*, *18*, 184–189.
- Donohue, B., Chow, G. M., Pitts, M., Loughran, T., Schubert, K. N., Gavrilova, Y., & Allen, D. N. (2015). Piloting a family-supported approach to concurrently optimize mental health and sport performance in athletes. *Clinical Case Studies*, *14*, 159-177. doi:10.1177/1534650114548311
- Donohue, B., Covassin, T., Lancer, K., Dickens, Y., Miller, A., Hash, A., Genet, J. (2004b). Examination of psychiatric symptoms in student athletes. *The Journal of General Psychology*, *13*, 29-35.
- Donohue, B., Dowd, A., Plant, C., Phillips, C. R., Loughran, T. A., Gavrilova, Y. (2016). Controlled evaluation of a method of recruiting participants into treatment outcome research: Preliminary results in a sample of collegiate athletes. *Journal of Clinical Sport Psychology*. *10*, 272-288.
- Donohue, B., Miller, A., Crammer, L., Cross, C., & Covassin, T. (2007a). A standardized method of assessing sport specific problems in the relationships of athletes with their coaches, teammates, family, and peers. *Journal of Sport Behavior*, 375-397.
- Dunn, J. G. H. & Nielson, A. B. (1996). A classificatory system of anxiety-inducing situations in team sports. *Journal of Sport Behavior*, *19*, 111-122.
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for adults: informing development of a conceptual model of health through sport. *The International Journal of Behavioral Nutrition and Physical*

- Activity*, 10, 135. doi:10.1186/1479-5868-10-135
- Eisenbarth, C. A., & Petlichkoff, L. M. (2012). Independent and interactive effects of task and ego orientations in predicting competitive trait anxiety among college-age athletes. *Journal of Sport Behavior*, 35, 387-405.
- Erickson, K., & Côté, J. (2016). A season-long examination of the intervention tone of coach–athlete interactions and athlete development in youth sport. *Psychology of Sport & Exercise*, 22, 264-272. doi:10.1016/j.psychsport.2015.08.006
- Felton, L., & Jowett, S. (2013). “What do coaches do” and “how do they relate”: Their effects on athletes’ psychological needs and functioning. *Scandinavian Journal of Medicine & Science in Sports*, 23, 130-139.
- Galli, N. A. & Vealey, R. S. (2007). Thriving in the face of adversity: Applying the resiliency model to high-level athletes. *Journal of Sport & Exercise Psychology*, 29, 162-163.
- Gearity, B. T., & Murray, M. A. (2011). Athletes’ experiences of the psychological effects of poor coaching. *Psychology of sport and exercise*, 12, 213-221.
- Geisner, I. M., Grossbard, J., Tollison, S., & Larimer, M. E. (2012). Differences between athletes and non-athletes in risk and health behaviors in graduating high school seniors. *Journal of Child & Adolescent Substance Abuse*, 21, 156-166.
- Gill, E. L. (2008). Mental health in college athletics: It's time for social work to get in the game. *Social Work*, 53, 85-88.
- Gill, D. & Kamphoff, A. (2010). Gender and cultural considerations. In J. Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* (6th ed., pp. 417-439). New York: McGraw-Hill.

- Giel, K. E., Hermann-Werner, A., Mayer, J., Diehl, K., Schneider, S., Thiel, A., & Zipfel, S. (2016). Eating disorder pathology in elite adolescent athletes. *International Journal of Eating Disorders, 49*, 553-562. doi: 10.1002/eat.22511
- Grossbard, J. R., Mastroleo, N. R., Geisner, I. M., Atkins, D., Ray, A. E., Kilmer, J. R., Mallet, K., Larimer, M.E., & Turrise, R. (2016). Drinking norms, readiness to change, and gender as moderators of a combined alcohol intervention for first-year college students. *Addictive behaviors, 52*, 75-82.
- Gulliver, A., Griffiths, K. M., & Christensen, H. (2012). Barriers and facilitators to mental health help-seeking for young elite athletes: A qualitative study. *BioMed Central Psychiatry, 12*, 157. doi:10.1186/1471-244x-12-157
- Heird, E. B., & Steinfeldt, J. A. (2013). An interpersonal psychotherapy approach to counseling student athletes: *Clinical Implications of Athletic Identity. Journal of College Counseling, 16*, 143–157. doi:10.1002/j.2161-1882.2013.00033.
- Holden, S. L., Forester, B. E., Keshock, C. M., & Pugh, S. F. (2015). How to effectively manage coach, parent, and player relationships. *Sport Journal, 1*.
- Holm-Denoma, J., Scaringi, V., Gordon, K. H., Van Orden, K. A., Joiner Jr., T. E. (2009). Eating disorder symptoms among undergraduate varsity athletes, club athletes, independent exercisers, and nonexercisers. *International Journal of Eating Disorders, 42*, 47-53.
- Homan, L., Dunn, J. C., & Holt, N. L. (2014). Youth Sport Experiences of Individuals With Attention Deficit/Hyperactivity Disorder. *Adapted Physical Activity Quarterly, 31*, 343-361. doi:10.1123/apaq.2014-0142
- Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureño, G., & Villaseñor, V. S. (1988).

- Inventory of interpersonal problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology*, 56(6), 885-892.
doi:10.1037/0022-006X.56.6.885
- Hudd, S., Dumlau, J., Erdmann-Sager, D., Murray, D., Phan, E., Soukas, N., & Yokozuka, N. (2000). Stress at college: Effects on health habits, health status, and self-esteem. *College Student Journal*, 34, 217-227.
- Choi H., Cho, S., & Huh, J. (2013). The association between the perceived coach-athlete relationship and athletes' basic psychological needs. *Social Behavior & Personality: An International Journal*, 41, 1547-1556.
doi:10.224/sbp.2013.41.9.1547
- Hyde, J. S. (2005). The Gender Similarities Hypothesis. *American Psychologist*, 60(6), 581–592. doi:10.1037/0003-066x.60.6.581
- Isoard-Gauthier, S., Trouilloud, D., Gustafsson, H., & Guillet-Descas, E. (2016). Associations between the perceived quality of the coach–athlete relationship and athlete burnout: An examination of the mediating role of achievement goals. *Psychology of Sport and Exercise*, 22, 210-217.
- Jackson, B., Grove, J. R., & Beauchamp, M. R. (2010). Relational efficacy beliefs and relationship quality within coach-athlete dyads. *Journal of Social and Personal Relationships*, 27, 1035-1050.
- Jones, R. L., Glimmeyer, N., & McKenzie, A. (2005). Slim bodies, eating disorders and the coach-athlete relationship. *International Review for the Sociology of Sport*, 40, 377–391. doi:10.1177/1012690205060231
- Jowett, S., & Cockerill, I. M. (2002). Incompatibility in the coach-athlete relationship.

- Solutions in sport psychology*, 16-31.
- Jowett, S., & Cockerill, I. M. (2003). Olympic medallists' perspective of the athlete-coach relationship. *Psychology of sport and exercise*, 4, 313-331.
- Jowett, S. & Poczwardowski, A. (2007). Understanding the coach-athlete relationship. In S. Jowett & D. Lavallee (Eds.), *Social Psychology in Sport* (pp. 3-13). NY: Human Kinetics.
- Jowett, S., & Ntoumanis, N. (2004). The Coach-Athlete Relationship Questionnaire (CART-Q): development and initial validation. *Scandinavian Journal of Medicine & Science in Sports*, 14, 245-257. doi:10.1111/j.1600-0838.2003.00338.x
- Jowett, S., & Wylleman, P. (2006). Interpersonal relationships in sport and exercise settings: Crossing the chasm. *Psychology of Sport and Exercise*, 7, 119-123.
- Khodabakhshi, A. & Khodaei, M. R. (2011). The comparison between resiliency and mental health among athlete and non-athlete male students. *European Psychiatry*, 26, 1588.
- Kontos, A. P., Elbin, R. J., Appaneal, R. N., Covassin, T., & Collins, M. W. (2013). A comparison of coping responses among high school and college athletes with concussion, orthopedic injuries, and healthy controls. *Research in Sports Medicine*, 21, 367-379.
- Kimball, A., & Freysinger, V. J. (2003). Leisure, stress, and coping: The sport participation of collegiate student-athletes. *Leisure Sciences*, 25, 115-141.
- Kreher, J. B. (2012). Attention Deficit/Hyperactivity Disorder (ADHD) in Athletes. *International Journal of Athletic Therapy & Training*, 17(3), 15-19.

- Lewis, T. F. (2008). An explanatory model of student-athlete drinking: The role of team leadership, social norms, perceptions of risk, and coaches' attitudes toward alcohol consumption. *College Student Journal*, *42*, 818.
- Lorimer, R., & Jowett, S. (2009). Empathic accuracy, meta-perspective, and satisfaction in the coach-athlete relationship. *Journal of Applied Sport Psychology*, *21*, 201-212.
- Lorimer, R. (2014). Coaches as a potential source of athletes' self-presentation concern. *International Journal of Coaching Science*, *8*, 83-91.
- Malinauskas, B. M., Cucchiara, A. J., Aeby, V. G., & Bruening, C. C. (2007). Physical activity, disordered eating risk, and anthropometric measurement: A comparison of college female athletes and non athletes. *College Student Journal*, *41*, 217-222.
- Mann, B. J., Grana, W. A., Indelicato, P. A., O'Neill, D. F., & George, S. Z. (2007). A survey of sports medicine physicians regarding psychological issues in patient-athletes. *American Journal of Sports Medicine*, *35*, 2140-2147.
doi:10.1177/0363546507304140
- Marasescu, M. R. (2013). Athletes' involvement in violence and aggression within the context of sports competition. *Contemporary Readings in Law and Social Justice*, *5*, 183-188.
- Marzell, M., Morrison, C., Mair, C., Moynihan, S., & Gruenewald, P. J. (2015). Examining drinking patterns and high-risk drinking environments among college athletes at different competition levels. *Journal of Drug Education: Substance Abuse Research and Prevention*, *45*, 5-16. PubMed
doi:10.1177/0047237915575281

- Mastroleo, N. R., Marzell, M., Turrisi, R., & Borsari, B. (2012). Do coaches make a difference off the field? The examination of athletic coach influence on early college student drinking. *Addiction research & theory*, *20*, 64-71.
- National Collegiate Athletic Association (NCAA). (2015). *Student-athlete participation 1981-82-2014-15* [PDF document]. Retrieved from <http://www.ncaa.org/sites/default/files/Participation%20Rates%20Final.pdf>
- Nattiv, A., Puffer, J. C., Green, G. A. (1997). Lifestyles and health risks of collegiate athletes: A multi-center study. *Clinical Journal of Sport Medicine*, *7*, 262-272.
- Neal, T. L., Diamond, A. B., Goldman, S., Klossner, D., Morse, E.D., & Pajak, D. E. (2013). Inter-association recommendations for developing a plan to recognize and refer student-athletes with psychological concerns at the collegiate level: An executive summary of a consensus statement. *Journal of Athletic Training*, *48*, 716. doi: 10.4085/1062-6050-48.4.13
- Nelson, T.F., & Wechsler, H. (2001). Alcohol and college athletes. *Medicine and Science in Sports and Exercise*, *33*, 43–47. PubMed
doi:10.1097/0000576820010100000008
- Nicolas, M., Gaudreau, P., & Franche, V. (2011). Perception of coaching behaviors, coping, and achievement in a sport competition. *Journal of Sport & Exercise Psychology*, *33*, 460-468.
- Norman, L. & French, J. (2013). Understanding how high performance women athletes experience the coach-athlete relationship. *International Journal of Coaching Science*, *7*, 3-24.

- Olympiou, A., Jowett, S., & Duda, J. L. (2008). The psychological interface between the coach-created motivational climate and the coach-athlete relationship in team sports. *The Sport Psychologist*, 22, 423-438.
- Papanikolaou, Z., Nikolaidis, D., Patsiaouras, A., & Alexopoulos, P. (2003). The freshman experience: High stress-low grades. *Athletic Insight: The On-line Journal of Sport Psychology*, 5.
- Patel, D. R, Omar, H., & Terry, M. (2010). Sport-related performance anxiety in young female athletes. *Journal of Pediatric and Adolescent Gynecology*, 23, 325-335. doi:10.1016/j.jpag.2010.04.004
- Pathan, P., Ansari, M. A., & Iqbal, Y. (2010). The relationship between sport activities, academic achievements, and personality dynamics of high school students in sindh. *Shiled: Research Journal of Physical Education & Sports Science*, 5, 19-28.
- Pennington, B. (2008). Rise of college club teams creates a whole new level of success. *The New York Times*, 11.
- Peterson, R. J., & Greenleaf, C. A. (2014). Exploring Flow among Ncaa Division I and Intramural Athletes. *Imagination, Cognition and Personality*, 33, 421-440.
- Pinkerton, R. S., Hinz, L. D., & Barrow, J. C. (1989). The college student-athlete: Psychological considerations and interventions. *Journal of American College Health*, 37, 218-226. doi:10.1080/07448481.1989.9939063
- Primack, B. A., Fertman, C. I., Rice, K. R., Adachi-Mejia, A. M., & Fine, M. J. (2010). Waterpipe and cigarette smoking among college athletes in the united states. *Journal of Adolescent Health*, 46, 45-51.

- Raedeke, T. D. (1997). Is athlete burnout more than just stress? A sport commitment perspective. *Journal of Sport & Exercise Psychology, 19*, 396-417.
- Rao, A. L., & Hong, E. S. (2016). Understanding depression and suicide in college athletes: emerging concepts and future directions. *British Journal of Sports Medicine, 50*, 136-137.
- Reardon, C. L., & Factor, R. M. (2010). Sport psychiatry. *Sports Medicine, 40*, 961-980.
- Rice, S. M., Purcell, R., De Silva, S., Mawren, D., McGorry, P. D., & Parker, A. G. (2016). The Mental Health of Elite Athletes: A Narrative Systematic Review. *Sports Medicine, 1-21*.
- Roth, A., & Basow, S. A. (2004). Femininity, sports, and feminism: Developing a theory of physical liberation. *Journal of Sport & Social Issues, 28*, 245-265.
doi:10.1177/0193723504266990
- Rutten, E. A., Schuengel, C., Dirks, E., Stams, G. J. J. M, Biesta, G. J. J., & Hoeksma, J. B. (2011). Predictors of antisocial and prosocial behavior in an adolescent sports context. *Social Development, 20*, 294-315.
- Sagar, S. S. & Jowett, S. (2015). Fear of failure and self-control in the context of coach-athlete relationship quality. *International Journal of Coaching Science, 9*, 3-21.
- Schaal, K., Tafflet, M., Nassif, H., Thibault, V., Pichard, C., Alcotte, M., & ... Toussaint, J. (2011). Psychological balance in high level athletes: Gender-based differences and sport-specific patterns. *Plos ONE, 6*, 1-9. doi:10.1371/journal.pone.0019007
- Shanmugam, V., Jowett, S., & Meyer, C. (2014). Interpersonal difficulties as a risk factor for athletes' eating psychopathology. *Scandinavian Journal of Medicine & Science in sports, 24*, 469-476.

- Shields, D. L., LaVoi, N. M., Bredemeier, B. L., & Power, F. C. (2007). Predictors of poor sportspersonship in youth sports: Personal attitudes and social influences. *Human Kinetics, 29*, 747-762.
- Shores, K., Becker, C. M., Moynahan, R., Williams, R., & Cooper, N. (2015). The Relationship of Young Adults' Health and Their Sports Participation. *Journal of Sport Behavior, 38*, 306-320.
- Short, S. E., & Short, M. W. (2005). Essay: Role of the coach in the coach-athlete relationship. *The Lancet, 366*, 29-30.
- Seitz, C. M., Wyrick, D. L., Rulison, K. L., Strack, R. W., & Fearnow-Kenney, M. (2014). The association between coach and teammate injunctive norm reference groups and college student-athlete substance use. *Journal of Alcohol & Drug Education, 58*, 7-26.
- Simons, H. D., Bosworth, C., Fujita, S., & Jenson, M. (2007). The athlete stigma in higher education. *College Student Journal, 41*, 251-273.
- Simons, H. D., Rheenen, D. V., & Covington, M. V. (1999). Academic motivation and the student athlete. *Journal of College Student Development, (40)*, 151-161.
- Sobell, L.C., Brown, J., Leo, G.I., & Sobell, M.B. (1996). The reliability of the alcohol timeline followback when administered by telephone and by computer. *Drug and Alcohol Dependence, 42*, 49-54.
- Sobell, M. B., Sobell, L. C., Klajner, F., Pavan, D., & Basian, E. (1986). The reliability of a timeline method for assessing normal drinker college students' recent drinking history: Utility for alcohol research. *Addictive Behaviors, 11*, 149 – 161.

- Stevens, R. E., Loudon, D. L., Yow, D. A., Bowden, W. W., & Humphrey, J. H. (2013). *Stress in college athletics: Causes, consequences, coping*. Routledge.
- Stirling, A. E., & Kerr, G. A. (2013). The perceived effects of elite athletes' experiences of emotional abuse in the coach–athlete relationship. *International journal of Sport and Exercise Psychology, 11*, 87-100.
- Surujlal, J., Van Zyl, Y., & Nolan, V. T. (2013). Perceived stress and coping skills of university student-athletes and the relationship with life satisfaction. *African Journal for Physical, Health Education, Recreation and Dance, 19*, 1047-1059.
- Thompson, R.A., & Sherman, R.T. (2007) *Managing Student-Athletes' Mental Health Issues*. Retrieved from:
https://www.ncaa.org/sites/default/files/2007_managing_mental_health_0.pdf
- Tomlinson, A., & Yorganci, I. (1997). Male coach/female athlete relations: Gender and power relations in competitive sport. *Journal of Sport & Social Issues, 21*, 134-155.
- Tripp, D. A., Stanish, W., Ebel-Lam, A., Brewer, B. W., & Birchard, J. (2007). Fear of reinjury, negative affect, and catastrophizing predicting return to sport in recreational athletes with anterior cruciate ligament injuries at 1 year postsurgery. *Rehabilitation Psychology, 52*, 74-81. doi:10.1037/0090-5550.52.1.74
- Turrisi, R., Mallett, K. A., Mastroleo, N. R., & Larimer, M. E. (2006). Heavy drinking in college students: who is at risk and what is being done about it? *The Journal of General Psychology, 133*, 401-420.
- Valentine, J. J. & Taub, D. J. (1999). Responding to the developmental needs of student athletes. *Journal of College Counseling, 2*, 164-179.

- Vealey, R. S., Armstrong, L., Comar, W., & Greenleaf, C. A. (1998). Influence of perceived coaching behaviors on burnout and competitive anxiety in female college athletes. *Journal of Applied Sport Psychology, 10*, 297-318.
- Vinci, D. M. (2000). The tired athlete: Nutritional considerations and strategies for prevention. *Athletic Therapy Today, 5*, 42–43. doi:10.1123/att.5.6.42
- Vrshek-Schallhorn, S., Stroud, C. B., Mineka, S., Hammen, C., Zinbarg, R. E., Wolitzky-Taylor, K., & Craske, M. G. (2015). Chronic and episodic interpersonal stress as statistically unique predictors of depression in two samples of emerging adults. *Journal of Abnormal Psychology, 124*(4), 918-932.
doi:10.1037/abn0000088
- 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.
- Weigand, S., Cohen, J., & Merenstein, D. (2013). Susceptibility for depression in current and retired student athletes. *Sports Health: A Multidisciplinary Approach, 5*, 263-266.
- Weinberg, R.S. (1987). Certifying educational sport psychologists: Integrating the sciences of psychology and sport. *AAASP Newsletter, 3*, 6.

- Weinberg, R., Vernau, D., & Horn, T. (2013). Playing through pain and injury: Psychosocial considerations. *Journal of Clinical Sport Psychology, 7*, 41-59.
- Wilson, G. & Pritchard, M. (2005). Comparing sources of stress in college student athletes and non-athletes. *Athletic Insight: The Online Journal of Sport Psychology, 7*, 1-8.
- Wolanin, A., Hong, E., Marks, D., Panchoo, K., & Gross, M. (2016). Prevalence of clinically elevated depressive symptoms in college athletes and differences by gender and sport. *British journal of sports medicine, 50*, 167-171.
- Wolverton, B. (2016, January 15). NCAA Considers Easing Demands on Athletes' Time. *Chronicle of Higher Education*. p. 16.
- Zhou, J., O'Brien, K., & Heim, D. (2014). Alcohol consumption in sportspeople: The role of social cohesion, identity and happiness. *International Review for the Sociology of Sport, 49*, 278-293.
- Zuckerman, S. L., Kerr, Z. Y., Yengo-Kahn, A., Wasserman, E., Covassin, T., Solomon, G. S. (2015) Epidemiology of Sports-Related Concussion in NCAA Athletes from 2009-2010 to 2013-2014: Incidence, recurrence, and mechanisms. *The American Journal of Sports Medicine, 43*, 2654-2662. doi: 10.1177/0363546515599634

CURRICULUM VITAE

COREY PHILLIPS

BIOGRAPHICAL

Address: 4505 S. Maryland Parkway
Box 455030
Las Vegas, NV 89154
Phone: 775 815 7352
Email: Corey.Phillips@unlv.edu

EDUCATION

August 2014-present

Ph.D., Clinical Psychology (in progress)

University of Nevada, Las Vegas (*APA Accredited*)

Dissertation:

August 2014-August 2017

M.A., Clinical Psychology

University of Nevada, Las Vegas

Thesis: An evaluation of the effects of the coach-athlete relationship on athlete mental health

August 2009-December 2013

B.S. (Honors), Psychology; Dual minors in Coaching & Business Administration

Roberts Wesleyan College, Rochester, NY.

Honors Thesis: To play or not to play: Psychological factors impacting rehabilitation following sport injury.

AWARDS & HONORS

- Patricia Sastaunik Scholarship Recipient (2017)
- Summer Session Scholarship Recipient (2016 & 2017)
- Magna Cum Laude (Roberts Wesleyan College)
- Dean's List—Highest honors (2009-2013)
- Trustee Scholarship Recipient (2009-2013)
- NAIA/NCAA Scholarship Recipient (2009-2013)
- Team Captain in two National Volleyball Championship Tournaments (2009 and 2013)
- Three time NCAA Team Captain (2010-2013)

Grants

Great Plays Grant Program

Co-Principal Investigator, Great Plays Alcohol Abuse Prevention, Alcohol Beverage Medical Research Foundation (ABMR 2350-259-775R), 2015.

CLINICAL EXPERIENCE

Sandstone Psychological Practice

August 2016-August 2017

Private Practice

Practicum Therapist, Specialty: Identity Development

- Provided individual long-term psychodynamic psychotherapy
- Conducted phone intakes and triage for clients interested in therapeutic services
- Conducted ADHD, learning disabilities, adult autism, and weight-loss surgical evaluations, wrote comprehensive reports, and delivered feedback to clients.
- Developed and instigated an interpersonal process women's group
- Co-facilitated two interpersonal process groups: a women's group and young adult group.
- Collaborated with other professionals as a consultant and coordinator of client care.
- Provided peer supervision

The P.R.A.C.T.I.C.E at UNLV

August 2015-

August 2016

Psychology Department Mental Health Clinic

Practicum Therapist

- Provided individual CBT, DBT, & ACT oriented psychotherapy
- Conducted intakes for psychological services including semi-structured clinical interview, brief standardized pre-treatment screening, and provided treatment recommendations to clients after consultation with a multi-disciplinary team.
- Conducted psychodiagnostic and psychoeducational assessments for students and older adults with concerns about ADHD, learning disabilities, memory functioning, and standardized testing accommodations, wrote comprehensive reports, and delivered feedback to clients.
- Co-facilitated weekly skill-based DBT group and substituted as a co-facilitator for young adult interpersonal group
- Conducted pre-group screenings of potential group members
- Participated in the development of clinical policy and completed all required case management tasks in accordance with clinical policy.

The Optimum Performance Program in Sport

July 2014-

August 2016

Psychology Department Research Clinic

Therapist/Performance Coach (NIDA; 1 RO1 DA031828; Family Behavior Therapy for Collegiate Athletes)

- Provided brief, manualized psychotherapy to university student-athletes
- Conducted structured intakes for performance programming
- Facilitated psychoeducational workshops for teams and coaches

- Participated in campus-wide outreach services during orientation and tabling events
- Assisted in the development of organizational strategies to facilitate functioning of the clinic.
- Provided training and supervision to peers

THERAPY GROUPS/WORKSHOPS FACILITATED

- Dialectical Behavior Therapy - Structured Group
- Women's Group - Process Group
- Young Adult Group - Process Group
- Sport Performance Enhancement Workshops - Structured Group

TEACHING EXPERIENCE

Introduction to Psychology, 2 sections
University of Nevada, Las Vegas

August 2016-May 2017

RESEARCH EXPERIENCE

Family Research and Services; University of Nevada, Las Vegas, NV

Coordinator, Recruitment, Engagement, and Dissemination (NIDA; 1 RO1 DA031828; Family Behavior Therapy for Collegiate Athletes)

Duties: Maintained caseload, implemented evidence-based protocols, evaluated treatment adherence, coordinated recruitment treatment outcome study, established program meeting agendas and minutes, coordinated supervision, coordinated quality assurance activities, organized outreach.

Supervisor: Bradley Donohue, Ph. D. (2014-2016)

Psychology Department; Roberts Wesleyan College, Rochester, NY

Research Aid (General Attachment Theory and the manipulation of attachment)

Duties: Conducted literature review, designed research method, developed manipulation of attachment, drafted manuscript components.

Research Aid (Altruism, values, and Belief in a Just World construct)

Duties: Conducted literature review, developed measure of Belief in a Just World, drafted manuscript components.

Supervisor: Rodney Bassett, Ph. D. (2011-2012)

ARTICLES IN PEER REVIEWED JOURNAL

Bassett, R., & Roberts Wesleyan College Research Group (2013). An empirical consideration of grace and legalism within Christian experience. *Journal of Psychology and Christianity*. 32, 43-69.

Donohue, B., Dowd, A., **Phillips, C. R.**, Plant, C., Loughran, T. A., Gavrilova, Y. (2016). Controlled Evaluation of a Method of Recruiting Participants into Treatment Outcome Research: Preliminary Results in a Sample of Collegiate Athletes. *Journal of Clinical Sport Psychology, 10*, 272-288.

Gavrilova, Y., Galante, M., Rodríguez, A. C., **Phillips, C. R.**, Donohue, B. (n.d.) The relationship between problem-solving skills and factors that interfere with performance in the world's elite circus artists. *Manuscript submitted for publication.*

Conference Presentations

Donohue, B., Gavrilova, Y., Galante, M., **Phillips, C.**, & Burnstein, B. (September, 2016). Piloting The Optimum Performance Program in Circus: Exploration into an Important Domain of Performance Psychology. Panel presented at the annual conference for the Association of Applied Sport Psychology, Phoenix, AZ.

Galante, M., Gavrilova, Y., **Phillips, C.**, Corral, A., Corey, A., Burnstein, B. & Donohue, B. (September, 2016). TOPP Performance: Anxiety and Problem-Solving Skills in Circus Artists. Poster presented at the annual conference for the Association of Applied Sport Psychology, Phoenix, AZ.

Garner, C., Gavrilova, Y., **Phillips, C.**, Gillis, D. & Donohue, B. (April 2015). *A Systematic Method of Recruitment of Collegiate Athletes*. Western Psychological Association. Las Vegas, NV. ID: 8449

Gavrilova, Y., **Phillips, C.**, & Galante, M. (January 2016). *An Evidence-Supported Timeline Functional Analysis Method of Performance Optimization*. Workshop conducted at the annual conference of the Center for Performance Psychology, National University's Sanford Education Center, Carlsbad, CA.

Gavrilova, Y. & **Phillips, C.** (February 2015). *Pre-performance and post-performance mindset training in the context of therapy: A workshop aimed at establishing optimum mindset in performers*. Workshop conducted at the annual conference of the Center for Performance Psychology, National University's Sanford Education Center, Carlsbad, CA.

Gavrilova, Y., Galante, M., Gavrilova, E., **Phillips, C.** & Donohue, B. ((2016) *The semi-structured interviews for sport and ethnic culture in mental health and sport performance programming: A rapid method of enhancing athletes' engagement*. Workshop conducted at the annual conference of the Center for Performance Psychology, National University's Sanford Education Center, Carlsbad, CA.

Phillips, C. R., Dowd, A., Loughran, T., Donohue, B. (2015). *A cognitive behavioral theory to assist in mental health rehabilitation following sport injury*. Poster presented at the Western Psychological Association Annual Convention, Las Vegas, NV.

Phillips, C. R. & Corey, A. (2016) *An evaluation of the effects of the coach-athlete relationship on athlete mental health*. Presentation at the annual conference of the Center for Performance Psychology, National University's Sanford Education Center, Carlsbad, CA.

PROFESSIONAL POSITIONS & SERVICE

- Tutor, Academic Success Center at the University of Nevada, Las Vegas (2017)

- Graduate Assistant at the University of Nevada, Las Vegas (2014-2017)
 - Academic Success Center/Disability Resource Center Assessment Specialist (May 2017-present)
 - Instructor, Introduction to Psychology (August 2016-May 2017)
 - Team Coordinator, Family Research and Services (July 2014-August 2016)

- Club Volleyball Assistant Coach
 - Northern Nevada Juniors (2013-2014)
 - Premiere Volleyball Club (2010-2012)

- Student Worker, University of Nevada, Reno

- Tutor, Roberts Wesleyan College (2010 - 2013)
 - Tutored the following courses: general psychology, developmental psychology, algebra, and biological basis of behavior

- Admissions' Student Ambassador (2011 – 2012)
 - Provided campus tours for prospective students and assisted with various admissions functions, such as making phone calls to prospective students and alumni and organization

- Outside Service Ambassador, Martis Camp Golf Course (2010-2011)

CONSULTATION

- Sean Murphy, Leadership Counseling Services, LLC (2014-present)
 - Maintain regular blog posts and weekly video segments on topics such as identity development, self-care and interpersonal relationships
 - Conducted outreach workshop for entrepreneurs at Alchemist Accelerator

Sport Performance Enhancement (2014-2016)

- Developed and implemented sport performance programming and psychoeducational workshops with teams and individual athletes
- Cultivated and maintained relationships with athletic coaches and administrators
 - UNLV Varsity Women's Soccer (2014-2016)
 - UNLV Varsity Women's Golf (2014-2016)
 - UNLV Varsity Women's Volleyball (2014)

COMMITTEES

- Clinical Student Committee Member (2014-present)
 - Clinical Student Committee, Treasurer (2015-2016)
 - Clinical Student Committee, Secretary (2014-2015)
- Web Presence Committee, AASP (2015)
- Student Athlete Advisory Committee, Chair (2012 - 2013)

OTHER COMMUNITY OUTREACH

- Adopt-A-School, Fairbanks Elementary, North Chili, NY (2011-2013)
- Volleyball clinics, Northern Nevada Middle Schools, (2012)
- Volleyball clinics for urban youth in Puerto Rico (2010)
- Brookdale Reno, Assisted Living Facility, Reno, NV, activities coordinator (2008-2009)
- Sarah Winnemucca Elementary School, Reno, NV; volunteer teacher's assistant (2007)

MENTORSHIP-BASED PROGRAM INVOLVEMENT

- Compeer Rochester, Rochester, NY; connecting disabled veterans with mentors (2013)
- OASIS Adaptive Sports, Rochester, NY; assisting disabled veterans reconnect and regain mental and physical health through outdoor recreational activities (2013)

REFERENCES

Dr. Janell Mihelic, Sandstone Psychological Practice
Clinical Supervisor
702-405-0904
drjmihelic@gmail.com

Dr. Michelle Paul, University of Nevada-Las Vegas
Associate Director of Clinical Training
702-895-1532
michelle.paul@unlv.edu

Dr. Bradley Donohue, University of Nevada-Las Vegas
Research Advisor
702-895-2468
Bradley.Donohue@unlv.edu

5.31.17