The Role of Certified Athletic Trainers in the Recognition and Referral of Mental Health Issues in Intercollegiate Student-Athletes

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Dedication

This dissertation is dedicated to my parents, who mean everything to me and are a constant source of love and encouragement, and also to my best friend Max, who was always by my side. Thank you!

Abstract

Currently, limited statistics are available regarding the incidence, recognition and treatment of psychiatric conditions in college student-athletes (Glick & Horsfall, 2001). A University of Minnesota study (Mattern & Ware, 2007) indicated that 25.1% of college students had been diagnosed with a mental health condition in their lifetime; therefore, it is probable that student-athletes are experiencing these conditions at similar rates. Certified athletic trainers may be in the best position to notice when student-athletes are experiencing psychological problems (Ray & Wiese-Bjornstal, 1999). The purpose of this study was to interview 18 certified athletic trainers regarding their role in the recognition and referral of mental health issues in intercollegiate student-athletes. Semi-structured interviews in an interpretivist phenomenology were conducted. Questions were posed regarding the recognition and referral of mental health issues in student-athletes and the educational and experiential backgrounds that prepared certified athletic trainers to recognize, intervene and refer mental health issues in student-athletes. The recognition and referral process was impacted by both positive and negative aspects which either improved or hindered recognition and referral. Positive factors were concepts such as performance declines, the advantage of personal experiences, knowledge of comorbid conditions, convenience of Division I resources, cost and convenience of campus counseling centers, confidentiality and coaches' influence. Negative factors which hindered recognition and referral were lack of confidence in recognition and referral, detrimental coaches' influence, Division III resources, campus counseling location, confidentiality and emotional impact. Certified athletic trainers interviewed saw a variety

of mental health issues in their student-athletes ranging from anxiety and depression to substance abuse and disordered eating. Referrals were made to many different medical professionals ranging from team physicians and neuropsychologists to emergency room physicians. Certified athletic trainers felt their educational background did very little to prepare them to recognize and refer mental health issues in their student-athletes, however practical experiences assisted them in gaining this knowledge. Curricular and practical implications such as implementation of additional coursework into existing athletic training curriculae and incorporation of mental health protocols into athletic training room policies was also reviewed.

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Chapter One

Introduction

Student-athletes experience a wide variety of challenges and pressures every day. The first people many of these student-athletes approach for information and advice are certified athletic trainers. Certified athletic trainers are "unique health care providers who specialize in the prevention, assessment, treatment and rehabilitation of injuries and illnesses that occur to athletes and the physically active" (National Athletic Trainers' Association [NATA], 2005, Definition section). The illnesses that affect collegiate student-athletes may be both physical and mental but according to research, certified athletic trainers feel less prepared to handle mental health issues than physical issues (Larson, Starkey & Zaichowsky, 1996; Moulton, Molstad, & Turner, 1997). Mental health can be defined as: "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (World Health Organization [WHO], 2010, p. 1). In this positive sense, it serves as the foundation for well-being and effective functioning for individuals and translates across cultures (WHO, 2010).

Certified athletic trainers who are not comfortable with the recognition of mental health issues in student-athletes may be delaying referral for those in need of help. Approaching the education of certified athletic trainers in the area of mental health may best be approached through learning theory of self-efficacy. A strong sense of self-efficacy encourages individuals to see difficult tasks or topics as challenges to be mastered and not areas to be avoided (Bandura, 1994). Certified athletic trainers may be

hesitant to approach student-athletes' mental health issues and may lack confidence in the recognition and referral these issues. Employing an educational process which is aimed at mastery of educational competencies will improve the self-efficacy of certified athletic trainers. "Self-efficacy beliefs provide the foundation for human motivation, well-being, and personal accomplishment" (Pajares, 2002, p.1). Successes build a robust belief in one's personal efficacy (Bandura, 1994).With this in mind, one of the most effective ways of creating a strong sense of efficacy in the preparation of student athletic trainers is through mastery experiences and thus assessment techniques can be applied.

The NATA requires that competencies be met in the psychosocial realm of recognition, intervention and referral; however, very few certified athletic trainers have actually taken courses in psychopathology or the psychology of injury (Cramer Roh & Perna, 2000). These authors found that 79% of certified athletic trainers surveyed actually expressed a need for additional education in the realm of counseling (Cramer Roh & Perna, 2000). The NATA's Athletic Training Educational Competencies (2006), includes several expectations for psychosocial intervention and referral by certified athletic trainers. Specifically the NATA requires that all certified athletic trainers:

> Describe the basic signs and symptoms of mental disorders (psychoses), emotional disorders (neuroses, depression), or personal/social conflict (family problems, academic or emotional stress, personal assault or abuse, sexual assault, sexual harassment), the contemporary personal, school, and community health service agencies, such as community-based psychological and social support services that treat these conditions and the appropriate referral procedures for accessing these health service agencies (NATA, 2006, p.36).

As indicated, many studies through the years have pointed out the need for additional education in the areas of psychology, sport psychology and counseling for certified athletic trainers (Cramer Roh & Perna, 2000; Hemmings & Povey, 2002; Larson et al., 1996; Misasi, Davis, Morin, & Stockman, 1996; Moulton et al., 1997; Wiese, Weiss & Yukelson, 1991), however, limited changes in the education of certified athletic trainers have occurred. At this point the NATA requires clinical proficiencies in psychosocial intervention and referral, yet few athletic training textbooks and curricula examine psychosocial areas (Harris, 2003).

According to Putukian and Wilfert (2004), the same issues that challenge the general student population also challenge student-athletes. Demands unique to the student-athlete can take an extra toll. Time management, performance pressures, psychological distress and negative perceptions are just a few of the issues student-athletes may struggle with (Fitch & Robinson, 1999). Certified athletic trainers "must always be cognizant of the potential stressors that are both, specific to athletes, but also those mitigating life influences that inevitably enter the sporting venue" (Mensch & Miller, 2008, p. 79).

Up to this point, few scholars have explored the prevalence of various mental health issues in student-athletes. "Greater awareness of these problems, empirical research and education about mental health issues in the sports medicine community is clearly needed" (Broshek & Freeman, 2005, p.1). Fortunately, the significance of this area of research has not been totally overlooked. Today, there are approximately 361,000 student-athletes participating in National Collegiate Athletic Association (NCAA) intercollegiate athletic programs (NCAA, 2006). Researchers suggest that between 10-

15% of those athletes will deal with psychosocial problems significant enough to seek professional counseling (Hinkle, 1994; Murray, 1997). Therefore, approximately 35,000-50,000 student-athletes annually are facing psychosocial problems in which they may need to seek help (Watson, 2003). Only about 5% of these individuals actually request support for their problems (Hinkle, 2002).

According to Ray and Wiese-Bjornstal (1999), certified athletic trainers may be in the best position to notice when student-athletes are experiencing any physical or psychological problems. Certified athletic trainers do not judge student-athletes' performances and do not determine student-athletes' playing time. Therefore, student-athletes may be more comfortable opening up to and sharing concerns with certified athletic trainers. Ultimately, certified athletic trainers will develop an understanding of the characteristics that make their student-athletes unique. Certified athletic trainers who know and understand the student-athletes with whom they work can distinguish variations in behavior that may be indicative of mental health problems. Shell and Ferrante (1996) emphasized the importance for certified athletic trainers to detect any subtle signs of mood or psychological disturbance in student-athletes they work with. Certified athletic trainers that acknowledge abnormal variations in moods can make a positive impact on student-athletes' lives. This will assist certified athletic trainers in evaluating the student-athletes' social support systems, coping mechanisms, and overall life stressors. Bunker and McGuire (1985) advised that the recognition of clinical problems, provision of coping skills training, and implementation of counseling referrals are extremely important for professionals working with student-athletes. Certified athletic trainers are excellent counseling resources because their student-athletes know

and trust them (Kane, 1982, 1984). This position of trust and authority places certified athletic trainers in a good position to make referrals to mental health professionals whenever necessary (Henderson & Carrol, 1993). Certified athletic trainers are also in a position to teach student-athletes that seeking help is courageous rather than a sign of weakness (Ray & Wiese-Bjornstal, 1999).

At this time, very limited empirical data is available regarding the incidence, recognition and treatment of psychiatric conditions in intercollegiate student-athletes (Glick & Horsfall, 2001). It would seem that with the rise in diagnoses of depression and anxiety disorders in the general college student population (National Mental Health Association [NMHA], 2004; National Institute of Mental Health [NIMH], 2004), student-athletes are not immune. Due to lack of research in this area, it is possible that many student-athletes are experiencing mental health issues and are not receiving the most effective treatment for their illnesses. Etzel, Ferrante and Pinkney (2002), stress that some student-athletes do suffer from depression and suicidal ideation, and may need referral to mental health professionals. This should be of great concern for certified athletic trainers, because lack of treatment may lead to unnecessary suffering and possible suicide.

It is an expectation of the NATA that all certified members be competent in the recognition of signs and symptoms of the various drugs used, as well as the signs and symptoms of mental and emotional disorders. Certified athletic trainers are also bound to "facilitate the timely transfer of care for conditions beyond the scope of practice of the athletic trainer by implementing appropriate referral strategies to stabilize and/or prevent exacerbation of the condition(s)" (NATA, 2004, p.16). Specifically, the clinical

proficiency needed to meet the NATA's requirement is as follows: "Demonstrate the ability to conduct an intervention and make the appropriate referral of an individual with a suspected substance abuse or other mental health problem" (NATA, 2006, p. 36). It is important to incorporate a self-efficacy learning theory (Bandura, 1994) to the educational process of certified athletic trainers' recognition and referral of mental health issues in intercollegiate student-athletes so they will not be intimidated when managing these conditions.

My study determined what mental health issues certified athletic trainers encountered in their college student-athlete population and what referral process was used to provide the most effective care. Additionally, I explored the educational or experiential background that has contributed to the certified athletic trainers' recognition of these issues. Results of this study revealed whether certified athletic trainers' education had been lacking in psychosocial curricula. It was found that more education in the area of mental health recognition and referral was necessary, so athletic training curriculums should be modified to ensure optimal care is provided to student-athletes in the future.

Review of Literature

This review of literature will explore a wide variety of sources that have examined not only the mental health issues facing both the general and college student population but also, more specifically, college student-athletes. This review will first discuss the incidence of mental health issues in the general college population, as well as the intercollegiate student-athlete population. Mental health issues cover a wide range of conditions including eating disorders, depression, substance abuse, and other mood disorders. These mental health issues will be defined, signs and symptoms of each will

be summarized, and the impact that each issue has on affected individuals will be examined. For this review of literature, the main focus of each mental health issue will be its prevalence in student athletes and the relevance this has to all intercollegiate certified athletic trainers. In a couple of areas, such as self-injury and anxiety disorders, very little research has been documented in intercollegiate student-athletes specifically, so statistics regarding the general population or professional athletes will be the focus. Within each specific mental health issue, the need for recognition and referral by certified athletic trainers will be illustrated. Next, an overview of mental health issues in student-athletes post-injury will be provided. Following this, information related to the role of certified athletic trainers in the referral of student-athletes' mental health will be covered. Concerns specific to student-athletes' referral are addressed and a variety of mental health referral programs are introduced. Available assessment tools will be covered and finally, athletic training curricular ideas that may assist certified athletic trainers in the area of mental health issues in athletes will be discussed.

Mental health issues: incidence in the college population. Findings indicate that mental health issues are on the rise in the general college student population. One study looked at 13,257 Kansas State University students and found that between 1989 and 2001 there was an increase in the complexity of mental health issues, ranging from relationship and developmental difficulties to more severe problems, including anxiety, depression, suicidal ideation, sexual assault and personality disorders. The Kansas State study discovered that within this time frame the number of students seen for depression doubled, and the number of students with suicidal ideation tripled (Benton, Robertson, Tseng, Newton & Benton, 2003). A more recent study was completed in which 2,920

randomly selected University of Minnesota-Twin Cities students were surveyed regarding their mental health. Findings showed that 25.1% of students had been diagnosed with a mental health condition in their lifetime and 15.7% had received a diagnosis of mental illness within the last year. More specifically, 18.5% of students surveyed had received a diagnosis of depression and 13.3% were diagnosed with anxiety at some point in their lifetime (Mattern & Ware, 2007).Other studies also found that mental health issues are rising on college campuses across the nation. A 2001 study of college counseling centers found that 85% of those centers reported an increase in students with severe psychological issues in the five years prior (Hart, 2001). "College counseling centers used to be on the backwaters of the mental health care system. Now they are the front line" (Peterson, 2002, para. 3). There is an increase in the prevalence of psychological problems in college students, but fortunately, recognition of these problems is occurring earlier than ever (Peterson).

Mental health issues: incidence in student-athletes. According to Glick and Horsfall (2001), the most commonly researched psychiatric conditions in athletes thus far have been eating disorders, violent behavior and substance abuse. It is quite possible that student-athletes exhibiting eating disorders or violent behavior may be suffering from a related mental health issue. Student-athletes that are abusing drugs and alcohol may be using them as an escape from other issues. In addition, the abuse itself may impact student-athletes' personalities by creating mood disturbances. Without discovering the core issues involved, time may be spent on treating behaviors as opposed to treating issues from which the student-athletes may be trying to escape. The link between mental

health and the source of these specific issues in student-athletes needs to be examined thoroughly so proper diagnoses can be made and treatments provided.

Regrettably, in the athletic environment, mental illness is associated with a stigma of weakness (Glick & Horsfall, 2001; Schwenk, 2000) and accompanying denial (Schwenk). Psychotherapy and psychopharmacological interventions may be the most effective treatment for an athlete experiencing mood disturbances or behavioral difficulties, yet, due to the stigma of mental illness, those options may never be explored (Schwenk). Student-athletes may hesitate to seek help because they fear being stigmatized by coaches, teammates, peers and fans (Brewer, Van Raalte, Petipas, Bachman, & Weinhold, 1998; Linder, Brewer, Van Raalte, & DeLange, 1991; Wrisberg & Martin, 1994).

Mental health issues: substance abuse and other addictions. Etzel et al., (2002) warn that in the assessment of student-athletes' usage, no drug should be discounted for use, thus, in this review of literature several substances are detailed: alcohol, recreational and other drugs, anabolic/androgenic steroids, ephedra and prescription drugs. In addition, other addictions such as gambling and exercise will be covered. Substance abuse and substance dependence are both mental health issues with specific criteria listed in the DSM-IV (American Psychiatric Association [APA], 1994), and thus are considered mental health issues. Student-athletes often use alcohol and other drugs as a means of coping to escape pressures from coaches, peers, teachers, family members, fans, friends and the media. Student-athletes may also use various substances to reduce pain, to avoid responsibilities, to fit in with friends and even to have fun in their limited spare time (Etzel et al., 2002). As indicated earlier, athletes take drugs for reasons such as lack of

appropriate coping skills, motivation, self-confidence, and fear of failure. Although athletes understand the dangers involved with taking drugs, they are often willing to take the risks (Taylor, 1990). Risk-taking or sensation-seeking by athletes has been defined as "a need for varied, novel, and complex sensations and experiences and the willingness to take physical and social risks for the sake of such experiences" (Zuckerman, 1979, p.11). Note that limited details are available regarding college student-athletes' reasons for substance abuse, thus literature focusing on professional athletes is reviewed. Research maintains that the two primary causes of drug abuse in professional athletes are performance enhancement and a means of escape from pressures surrounding the sport. Examples of drugs athletes used for performance enhancement were anabolic steroids, cocaine, amphetamines and other stimulants. Drugs athletes used for the purpose of escape were found to be alcohol, cocaine and marijuana (Taylor, 1990).

It is a required NATA competency that all certified athletic trainers recognize not only the signs and symptoms of various drugs athletes may be using, but also how these substances may be affecting student-athletes. Some commonly used substances include alcohol, recreational drugs, anabolic steroids, ephedra and prescription drugs.

Alcohol. Alcohol use in the college population is prevalent; 83% of all students reported drinking at some point while in college (University of Michigan, 2005). At the University of Minnesota – Twin Cities, 74% of students indicated they had used alcohol in the last 30 days, while 36.5% reported engaging in high-risk drinking behaviors (Mattern & Ware, 2007). Like the general college student population, college student-athletes also participate in the consumption of alcoholic beverages on a regular basis.

The Harvard School of Public Health College Alcohol Study (2001) found college athletes have a higher rate of binge drinking and heavier alcohol use than non-athletes. This particular study also found that student-athletes were experiencing more academic problems and more issues with law enforcement compared to their non-athlete peers, despite having more exposure to alcohol education programs. A similar study also reported that college athletes consume more alcohol and report more alcohol-related consequences, such as criminal behavior, citations for operating while intoxicated and unsafe sexual practices compared to non-athletes (Perko, Usdan, Leeper, Belcher, Leaver-Dunn & Williams (2006). Another study which found that athletes had higher rates of heavy drinking than their non-athlete peers defined heavy drinking for males if five or more drinks were consumed in a row and, if four or more drinks were consumed in a row by females (Higher Education Center for Alcohol and Other Drug Abuse and Violence Prevention, 2008). Since alcohol is a legal substance for those over 21 years of age, its use by student-athletes is often minimized as having any negative effect (Etzel et al., 2002).

Miller and colleagues studied the misuse of alcohol by college student-athletes and found there is a strong possibility of a link between serious alcohol abuse and psychopathological symptoms, such as depression and other general psychiatric symptoms (Miller, Miller, Verhegge, Linville, & Pumariega, 2002). Miller and colleagues recommend that due to the causal link between psychopathology and serious alcohol abuse in student-athletes, it would be beneficial to routinely screen for depression and anxiety in this population (Miller et al., 2002). The *NCAA News Online* also illustrated the link between mental health issues and substance use, indicating that

student-athletes who suffer from anxiety and depression have a greater chance of developing issues with alcohol and other drugs (Johnson, 2004).

It is important to recognize that if there are no major differences in the number of student athletes versus non-athletes participating in drug use, that student-athletes should be treated as developing young people as opposed to being treated solely as student-athletes (Etzel et al., 2002). In some unfortunate cases, student-athletes may be thought of first as possessions of the institution rather than as people. Sperber (1990) maintains that NCAA drug testing is used to maintain athletic revenues that might be lost if student-athletes are caught using illegal substances. If this is the case, student-athletes are regarded as commodities rather than people. Etzel et al. (2002) emphasize the importance of keeping student-athletes' welfare the primary concern, and keeping eligibility and playing time a secondary concern. Performance and academic issues may arise that are directly related to the use of alcohol. It should be of great concern to certified athletic trainers to be aware of the signs that athletes with an alcohol problem may be displaying.

Recreational and other drugs. Recreational drugs are psychoactive drugs that may or may not be prescribed, but are used for purposes other than medical reasons. Recreational drug use is prevalent among college students. It has been estimated that annually 33.3% of college students use marijuana, 6.7% use amphetamines, 5.0% use hallucinogens, 5.7% use cocaine and 2.9% use designer drugs such as ecstasy (University of Michigan, 2005). As this review continues, the involvement of student-athletes in recreational drug use will be detailed. Estimates indicate that amphetamine use among student-athletes is typically 6-9% (Anderson & McKeag, 1985). Marijuana use is

approximately 28% and cocaine use is approximately 5% (Anderson, Albrecht & McKeag, 1993). Indications that a student-athlete may be taking illegal substances may be anxiety, impotence, depression, decreased fatigue, gastrointestinal disturbances and repeated physical injuries. Changes in pupils, nystagmus, slurred speech, and balance issues may also occur. The use of recreational drugs can affect student-athletes' academic and athletic performance so it is imperative the behavior is deterred as early as possible.

It is a required NATA competency that all certified athletic trainers recognize the signs and symptoms of various substances athletes may be using and how these substances may be affecting student-athletes. Specifically, it is an expectation of NATA that certified athletic trainers are competent in the identification and description of "the sociological, biological and psychological influences toward substance abuse, addictive personality traits, the commonly abused substances, the signs and symptoms associated with the abuse of these substances, and their impact on an individual's health and physical performance" (NATA, 2006, p.36). Substances can affect all student-athletes differently so it is vital certified athletic trainers are educated regarding the various signs that may be apparent in student-athletes using recreational and other drugs. Referral for treatment of substance abuse issues is mandated if signs and symptoms are present.

Anabolic and androgenic steroids. Substance abuse issues affecting student-athletes may also include the use and abuse of anabolic/androgenic steroids. Anabolic/androgenic steroids are synthetic derivatives of the male hormone testosterone (NCAA, 2005). Cancer of the liver, prostrate and kidney, reduced sperm count, masculinization in females and breast growth in males are all possible outcomes of steroid abuse as well

(Tricker, Schindler, & Shirazi, 2007). High blood pressure, acne and nosebleeds may also occur. Hartgens and Kuipers (2004) found that androgenic-anabolic steroids induce aggression and hostility, as well as drug and dose dependent mood disturbances. Other research has found that depressive symptoms may arise from the discontinuation of steroid use (National Institute of Drug Abuse (NIDA), 2005).

In the general college student population, anabolic steroids are typically used to increase mass for those suffering with body image concerns (Cromie, 2000). It is difficult to find statistics regarding the prevalence of steroid use in the general college population. One study, which focused on the non-athlete college population, found that 20 in every 1000 male college students and 2 in every 1000 college women reported non medical anabolic steroid use in their past (McCabe, Brower, West, Nelson & Wechsler, 2007). The prevalence of anabolic steroid use in elite and professional athletes for performance enhancement has received a great deal of attention through the years. Recently, an investigation was carried out to examine the use of steroids and other performance enhancing substances in major league baseball. It was found that the use of these illegal substances was prevalent (Mitchell, 2007). Mitchell (2007) recommended action should be taken to keep this from happening in the future. Marion Jones, an Olympic track star, also recently admitted using these illegal substances and lost her Olympic medals (Shipley, 2007). She became the latest on a long list of elite athletes who have been found guilty for using these performance enhancing drugs. Unfortunately, elite athletes are not the only ones who are using performance enhancing substances.

College student-athletes also participate in the use of these performance enhancement substances. The NCAA reports the percentage of student-athletes using steroids fell from 1.5% in 2001 to 1.2% in 2004 and remains relatively stable (Dehass, 2006). Another study found that 1% of college student-athletes used steroids with an additional 12% indicating they would use anabolic steroids under the right circumstances (Meldrum & Feinburg, 2009). Another study reported that intercollegiate student-athletes at all NCAA levels were more likely to report non medical anabolic steroid use (McCabe et al., 2007). These drugs are used to build muscle and increase mass. Fuller and LaFountain (1987) found that athletes justified their use of these drugs by thinking that the drugs were harmless, and reasoned that since their competitors were using steroids, they should too. In certain cases, poor body image may precipitate or perpetuate anabolic steroid use in some athletes (Pope, Katz & Hudson, 1993). With this information, it is critical for certified athletic trainers to not only recognize the physical signs and symptoms of student-athletes using anabolic/androgenic steroids, but also to recognize the mood variations that may arise from steroid use. Indications that a student-athlete is using steroids may be acne, high blood pressure, nosebleeds and aggressive behavior. These signs are easily observed by certified athletic trainers. Referral to a team physician will ensure that student-athletes obtain the best possible care for their steroid use and medical problems stemming from this use.

Ephedra. Another substance that student-athletes use and abuse is ephedra. Ephedra, also called ma huang, is a Chinese herb used for asthma in the 1960s (PBS, 2003). It is taken for performance enhancement, mood elevation, weight loss, concentration and increased energy (Miller & Waite, 2003). This review will first

examine ephedra use in the general population and then will examine use in athletes specifically. Due to safety concerns with ephedra use in the general population, the United States Food and Drug Administration [USFDA] commissioned the Rand Corporation to examine the drug, its claims and its safety profile. Signs of ephedra usage are palpitations, increased heart rate and dizziness (Miller & Waite). The drug's usage increased among many sports, particularly women's collegiate teams, between 1997 and 2001 (Schnirring, 2003). The report found that the supplement did have some effect on weight loss, but that sport performance improved very little without the addition of caffeine. More importantly, the Rand Corporation also found a relationship between ephedra and the incidence of heart attacks, strokes, seizures, and various psychiatric symptoms (Schnirring, 2003). Due to the Rand Corporation's findings, the FDA issued a consumer alert on December 30, 2003 alerting consumers to stop buying and using ephedra products. The official ban was issued in April of 2004, after ephedra had been linked to more than 150 deaths (USFDA, 2003). Among these deaths, ephedra was linked to the loss of Korey Stringer of the Minnesota Vikings in 2001 and Baltimore Orioles' pitching prospect Steve Bechler in 2003 (Schnirring, 2003). According to the NCAA (2006), student-athletes are currently using ephedra at the same rate as when initially reported, even though the NCAA banned it in 1997 (NCAA, 1997). A 2006 NCAA report found that 2.5% of intercollegiate student-athletes were using ephedra (NCAA, 2007). Certified athletic trainers need to stay up to date with new supplements in the market that may contain ephedra so they can properly warn student-athletes of the drug's dangers. They must also be aware that signs of ephedra use in student-athletes should warrant referral to a team physician.

Prescription drug addictions. Researchers have found that college students are increasingly using prescription drugs for illicit purposes (Kolek, 2006). Kolek reported that 12.8% of college students stated they had used prescription drugs for recreational purposes. Of those, 23.7% indicated they used their own prescriptions, 67.7% used someone else's prescriptions and 8.6% reported using both (Kolek). Each medication has differing signs and symptoms, however, pupil changes; fine tremors in the extremities and hyper salivation may be present in those specifically abusing painkillers. Irritability, apathy, anxiety and depression are also signs someone is misusing prescription medications. Drugs commonly used recreationally in the college student population are Ritalin, Percocet, Percodan, Dexedrine, OxyContin and Vicodin. The increase in drug use is attributed to a change in the national climate regarding the increased number of prescriptions written for psychiatric drugs. In addition, the idea that many college students perceive prescription drug use to be more innocent than illicit drug use also contributes to this increase (Kolek). Unfortunately, whether it is illicit or prescribed, prescription drug use may lead to addiction**.**

At this point, limited information is available that specifically looks at the frequency of addiction to prescription medications in college student-athletes.

It is critical to realize student-athletes may be at risk for inadvertently abusing prescription medications. After athletic injury, substances may be prescribed for pain control, inflammation and healing that if taken, may lead to physiological and/or psychological dependence (Taylor & Taylor, 1997). Student-athletes should be warned of the addictive qualities inherent in the narcotics prescribed for pain so that abuse of these substances is prevented. Problems with prescription drug use can lead to adverse

physical, legal, economic and social issues so it is crucial that student-athletes are referred to medical professionals if the need arises. It is essential for certified athletic trainers to recognize the possible signs and symptoms of prescription drug usage.

Other addictions. As this review of literature continues, I will examine gambling and exercise addiction, which can also have an impact on student-athletes' lives. It has been found that the rate of gambling in college students is four to eight times higher than the rate of adults not currently enrolled in college (Rockey, Beason, & Gilbert, 2002). Some of the dangers that student athletes' gambling may have are athletic and academic failure, crime, relationship problems, alcohol and substance abuse, debt and suicide (Cross & Vollano, 1999).

Cross and Vollano (1999) found that 72% of student-athletes have gambled at least once since they entered college. Furthermore, they found that 45 percent of male student-athletes gamble on sports. Another study on student-athletes' sport betting indicated 30.4% of male student-athletes were involved in this practice (Rocky, Beason & Gilbert, 2002). Female student-athletes were less apt to bet on sport but it was found that 10% of female student-athletes did bet on sport (NCAA, 2004). Regrettably, gambling addictions can have a tremendous effect on student-athletes' welfare. More recent findings indicate that gambling addiction may be seen as a coexisting factor with other addictions and with depression among athletes (Miller et al., 2001). Due to these coexisting conditions, it is crucial for certified athletic trainers to recognize the signs of gambling addiction and refer student-athletes to professionals with specialization in gambling when necessary.

Ironically, another area of addiction that can envelop student-athletes' lives is the addiction to exercise itself. Exercise addiction is occasionally referred to as obligatory exercise (Anorexia Nervosa and Related Eating Disorders [ANRED], 2005). With this condition, individuals feel overwhelmed with guilt and anxiety if they are not excessively active. Student-athletes may try to raise their self-esteem and meet deeper needs by excelling in their activity. Unfortunately, they may also try to hide from emotional pain by consuming their time with workout schedules (ANRED). "Many obligatory exercisers repress anger, have low self-esteem, and struggle with depression in spite of significant victories and achievements" (ANRED, 2005, para.8). The American Running Association [ARA], 2005), points out that addicted runners will almost always suffer consequences from their exercise addiction. The ARA's website warns that the commitment to exercise may cross the line to dependency and compulsion, which may ultimately lead to physical, social, and psychological havoc (ARA, 2005). These student-athletes may need referral for underlying conditions such as depression, obsessive compulsive disorder and disordered-eating patterns. Certified athletic trainers should pay strict attention to student-athletes who seem compulsive in their desire to work out and who seem anxious when asked to cut back. Certified athletic trainers should also watch for student-athletes suffering from a variety of overuse injuries that are not improving.

Mental health issues: disordered eating. The first specific mental health conditions that will be explored are eating disorders. Eating disorders "are psychiatric disorders that affect individuals' psychological, physical, nutritional, interpersonal, and emotional functioning and are characterized by dysfunctional eating patterns and disturbances or distortions about body size and shape" (Petrie & Trattner Sherman, 1999, p.207). The

APA describes two separate types of eating disorders: anorexia nervosa and bulimia (APA, 1994). There are also subclinical behaviors that may need referral to mental health professionals. Subclinical behaviors are those that do not meet the APA criteria for anorexia nervosa or bulimia yet share the early signs of these conditions. Signs of subclinical behaviors may be excessive dieting, extreme body dissatisfaction, purging and compulsive exercising (Petrie, 1993; Petrie & Stoever, 1993). Signs and symptoms of anorexia nervosa include intense fear of gaining weight, refusal to maintain healthy weight, denial of current body weight and amenorrhea. Signs of bulimia include recurrent episodes of binge eating and recurrent compensatory behavior in order to prevent weight gain. Behaviors may include vomiting as well as laxative, diuretic and enema use.

According to the NMHA, within the general population, one-third to one-half of people with eating disorders report struggling with depression and anxiety (NMHA, 2004). Walsh, Wheat and Freund (2000), have shown that in 25% of cases, individuals with anorexia nervosa may also be suffering from obsessive-compulsive disorder (OCD). In addition, it has been found that those suffering from bulimia often have a history of childhood or sexual abuse, substance abuse or dependence. Bulimics frequently have a family history of alcoholism or depression, and often suffer from depression or mood disorders of their own (Walsh et al).

Many student-athletes are affected by eating disorders. Nagel, Black, Leverenz and Coster (2000) determined that student-athletes are two to three times more likely to manifest eating disorder behaviors than those in the general population. Therefore, those working with student-athletes need to understand the link between mental health issues

and eating disorders. Eating disorders can lead to performance issues in student-athletes due to poor nutrition, fatigue, amenorrhea and overuse injuries such as stress fractures. Eating disorders in athletes have been examined by many researchers (Beals, 2003; De Palma, Koszewski, Romani, Case, Zuiderhof & McCoy, 2002; Gee & Telew, 1999; Hosick, 2004; Petrie & Rogers, 2001; Vaughan, King & Cottrell, 2004); however, the focus has often been solely on the eating disorder and not on accompanying factors that may include other mental health issues, such as depression or obsessive-compulsive disorder. Certified athletic trainers need to be aware that these same overlapping mental health conditions may be affecting student-athletes they are working with as well.

Vaughan et al., (2004) examined college certified athletic trainers' confidence in helping female athletes with eating disorders. Their findings indicated that 91% of certified athletic trainers surveyed had experience working with female athletes who had an eating disorder, yet only 27% felt confident identifying female athletes suffering from this condition. As opposed to other mental illnesses, great attention and education has been provided to certified athletic trainers regarding recognition of eating disorders in student-athletes, yet there are still many certified athletic trainers that do not have confidence in their recognition of individuals with eating disorders. Knowledge regarding eating disorders is a subset of the NATA's Role Delineation Study's prevention category. It is an expectation that certified athletic trainers understand the relationship between nutrition and injuries, illnesses and conditions (NATA, 2004). They may not recognize the signs and symptoms of depression and mood disorders, however. With the number of athletes suffering from eating disorders and the coexistence of related issues, it is important for certified athletic trainers to increase not only their awareness of OCD,

anxiety and depressive issues, but also their relationship to eating disorders in student-athletes.

Mental health issues: depression. Within this section depression will be defined and signs and symptoms will be provided. Next, depression in the general college population will be discussed followed by the incidence in student-athletes and the certified athletic trainers' role in the care of athletes showing depressive symptoms. Depression is a disease which involves changes in brain chemistry that can be worsened by stressful experiences. Some symptoms of depression include fatigue, sadness, decreased energy, anxiety, sleep disturbances, loss of interest in usual activities, weight fluctuations, social withdrawal and suicidal thoughts (Gavin, 2003).

It is known that psychological, social and environmental stressors may be precipitating factors that lead individuals in the general college population to suffer from major depression. Mental Health America, formerly NMHA, reports that in 2006 42% of college students indicated they felt so depressed they found it hard to function (Mental Health America [MHA], 2007). Students had difficulty attending classes, concentrating on studies and maintaining healthy relationships.

Recognizing that student-athletes are not excluded from this risk is crucial (Etzel et al., 2002). Intercollegiate student athletes may even be at greater risk for depression due to additional life stressors and reduced parental support (Yang et al., 2007). It is difficult to find statistics from many institutions on the prevalence of clinical depression in student- athletes however, certified athletic trainers should be aware of the signs and symptoms of depression so student-athletes are referred when necessary. One study at the University of Iowa found that approximately 21% of the student-athletes at their

school had symptoms of depression, which was similar to the findings for the general college population at that same school (Yang et al.). Yang et al., also found that 4% of the student-athletes participating in their study had been diagnosed with clinical depression. These findings suggest further studies should be conducted to see if similar statistics would be found elsewhere. Etzel et al., emphasized it is vital for professionals, such as certified athletic trainers, working in sport to be aware of the signs and symptoms of this disorder as defined in the DSM-IV, (Etzel et al.). Student-athletes experiencing fatigue, loss of appetite and performance changes should be referred to a medical professional. It is critical to obtain a proper diagnosis so those with depression can be helped as soon as possible. Like the general college student population, student-athletes suffering from depression can experience academic and interpersonal difficulties. Symptoms of this disease may worsen if treatment is delayed. In addition, other mood disorders such as bipolar disorder may be present when depressive signs and symptoms are observed so referral is imperative. Certified athletic trainers must also be aware that depressive symptoms should be differentiated from those student-athletes with overtraining syndrome.

Mental health issues: overtraining. Another problem that can negatively affect student-athletes mental health is overtraining. Overtraining can be defined as prolonged, excessive training that is concurrent with inadequate recovery, which can lead to poor performance and other symptoms such as fatigue, insomnia, loss of appetite and loss of motivation (Armstrong & Van Heest, 2002). Armstrong and Van Heest concluded that overtraining syndrome and depression share many of the same signs and symptoms.

Neurotransmitters, endocrine pathway dysfunctions and immune responses were found to be similar in both depression and overtraining syndrome.

Oftentimes, athletes with signs and symptoms of depression are thought to be overtraining and are only provided with information to deal with the overtraining as opposed to being provided with information to deal with the depression (Armstrong & Van Heest, 2002; Hawley & Schoene, 2003; Uusitalo, 2001). Because of this, student-athletes remain misdiagnosed and the pharmacological and psychotherapy treatment that should be provided is neglected. Armstrong and Van Heest (2002) suggest that treatment for depression may be successful for those with overtraining syndrome and emphasize the need for more research. It is important to rule out major depressive symptoms so that student-athletes are receiving the proper care for their condition. Unfortunately, there is still no effective tool available to diagnose overtraining syndrome (Urhausen & Kindermann, 2004). Schwenk (2000) notes that the student-athlete diagnosed with either overtraining (OT) or major depressive disorder (MDD) may be in denial of the condition and therefore may work harder to overcome their inadequacies.

Athletes may be even more susceptible to under diagnosis and inadequate treatment of depression and other mental illness than are non-athletes, particularly for problems that are related to athletic training and performance and are viewed from a narrow physiological rather than a broader biopsychosocial perspective (Schwenk, 2000, p.4).

Certified athletic trainers need to be aware of the similarities that exist between overtraining syndrome and depression so that referral to the proper medical personnel can be made.

Mental health issues: adjustment disorders. According to Etzel et al., (2002), adjustments disorders occur when individuals have difficulty adapting to the stressors in life. The DSM-IV includes six subtypes of adjustment disorder which may be present in college students. They are adjustment disorder: with depressed mood, with anxiety, with mixed anxiety and depressed mood, with disturbance of conduct, with mixed disturbance of emotions and conduct, and unspecified (APA, 1994). In college students, signs and symptoms of adjustment disorders are sadness, worry, desperation, nervousness, lack of enjoyment and crying spells. Certified athletic trainers need to be aware that adjustment disorders may be present in the student-athletes that they work with. A decline in psychosocial functioning and sports performance may be initial signs student-athletes are experiencing adjustment difficulties (Etzel et al.). Fighting and academic difficulties may also have a behavioral link to athletes' adjustment disorders (Mayo Clinic). Hinkle (2002) suggests that most athletes with this diagnosis have a history of coping very well but are struggling with their current situation. It is necessary to get further diagnoses and counseling if signs and symptoms in student-athletes persist for over six months. Etzel et al., (2002) point out student-athletes may be exhibiting a variety of symptoms depending on how the adjustment disorder is manifesting itself. This can lead to behavioral issues such as fighting, reckless driving, poor academic performance and vandalism (Mayo Cinic, 2007). Certified athletic trainers must pay attention to adjustment difficulties in student-athletes that may surface as performance problems or psychosocial changes and must also make appropriate referrals to mental health professionals.

Mental health issues: panic disorder. Next, panic attacks and panic disorder will be addressed. Panic attacks may elicit a period of intense fear or discomfort. Symptoms

may include shortness of breath, dizziness, chest pain, abdominal distress and trembling. Symptoms of panic attacks may be similar to those of myocardial infarction and angina, so rapid differentiation is crucial to provide proper medical care and referral. Panic attacks are actually very common. A survey of college women found that close to 50% of them had experienced at least one panic attack in their lifetime (George Mason University [GMU], 2007). Panic disorder is diagnosed in individuals who experience four or more panic attacks in a month or in those who have an attack followed by a month of persistent fear of having another. Panic disorder has been cited as the top reason women drop out of college (MHA, 2007). Other disorders that may co-occur with panic disorder are depression, substance abuse, agoraphobia, and obsessive-compulsive disorder (MHA). About half the individuals with panic disorder suffer from at least one episode of depression in their lifetime and approximately 20% attempt suicide. In addition, alcohol is used by approximately 30% of those with panic disorder and 17% abuse drugs; such as marijuana and cocaine (MHA).

With the high rate of panic disorder in the general population, it is probable that student-athletes are also experiencing the same problems. Student-athletes often experience anxiety prior to competition. This is not significant, however, unless it progresses to a panic attack. Rubin and Chassay (1996) recommended removing the athletes from the stressful situation and calming them down as the immediate intervention for hyperventilation and panic attacks. It is critical for certified athletic trainers to recognize that dizziness, chest pain and shortness of breath could be indicative of a panic attack. The similarity between these symptoms and the symptoms of cardiac conditions is striking. Both need to be treated with referrals so proper diagnoses can be made.

Student-athletes with a history of this panic disorder should meet with their certified athletic trainers to determine how best to handle each student-athletes' specific condition. Those suffering from panic disorder should also be referred for evaluation for other mental health issues they may be experiencing, such as depression, obsessive compulsive disorder or substance abuse.

Mental health issues: generalized anxiety. The DSM-IV defines generalized anxiety as unrealistic or excessive worry and anxiety regarding two or more life situations for a period of 6 months or more. Individuals have trouble controlling the anxiety and may also have increased muscle tension, restlessness and sleep difficulties (APA, 1994). According to the NMHA, anxiety levels have been on the rise in college students since the 1950s (NMHA, 2004). Statistics show that approximately 7% of college students experience some type of anxiety disorder in a given year (NMHA, 2004). With these statistics occurring in the general college population it is very possible that student-athletes are experiencing the same types of anxiety issues.

According to Begel (1992), student-athletes may have cognitive and somatic anxiety precompetition, yet their anxiety may also extend into their life outside of athletics. Signs that student-athletes may be experiencing anxiety problems are: muscle tension, restlessness, irritability and concentration and sleep difficulties. All of these signs can lead to performance problems and injuries that may affect student-athletes. Several studies have found a correlation between life stress and increased athletic injury (Andersen & Williams, 1988; Hardy & Riehl, 1988; Williams & Andersen, 1998). Therefore, referring student-athletes with anxiety issues may also reduce injuries and increase the quality of athletic performance. Many student-athletes may look to

substance abuse to alleviate their stress and anxiety, which can in turn lead to addiction issues (Etzel et al., 2002). With this information in mind, it is critical for certified athletic trainers to make mental health referrals for student-athletes with anxiety issues. Doing this could prevent substance abuse and other harmful addictive behaviors.

Mental health issues: self-injury. Limited research is available at this time that looks at self-injury specifically in athletes, so as this review continues, self-injury will be defined, signs and symptoms will be detailed and incidence in the general population will be discussed. Following this, the certified athletic trainers' role in the recognition and referral of self-injuring student-athletes will be covered. Self-injury is defined as the "deliberate, repetitive, impulsive, non-lethal harming of one's body" (SAFE Alternatives, 2005, p.1). Self-injurious behaviors may include cutting, burning, scratching and hair pulling among others. Self-injurers transcend age, religion, education and income level; however, the average self-injurer is of middle to upper class, of average to high intelligence, with low self-esteem and between the ages of 11 and 26 (Sullivan, 2000). Seventy percent of those who self harm are women and nearly 50% of self-injurers report experiencing physical or sexual abuse during their childhood. Researchers (Himber, 1994; Shearer, 1994) have identified several reasons individuals self-harm, such as enhancing self-esteem, self-punishment for bad behavior, sense of control, and feeling concrete pain when psychic pain is too much to bear. Other reasons, such as keeping traumatic memories from surfacing and discharge of anxiety, anger and despair, have been cited as contributors to this behavior (Himber, 1994; Shearer, 1994). An estimated 1/2 to 2/3 of self-injurers in the general population also suffer from anorexia nervosa or bulimia. In adolescents, the first person to notice an individual is a self-injurer is often a

school counselor (White Kress, 2004); in dealing with college student-athletes, the certified athletic trainer may serve as that gatekeeper. Early recognition can come from observations of physical signs of self-injury (White Kress, 2004; White, Trepal-Wollenzier, & Nolan, 2002). It is important to remember that many self-injurers attempt to hide their injuries by wearing clothes over their wounds to avoid attention and embarrassment (Alderman, 2000), thus it may be difficult to identify all individuals who are practicing this behavior. Certified athletic trainers must be aware that lacerations or burns on areas such as forearms and thighs that can easily be hidden, are potentially signs of self-injury. Certified athletic trainers may be asked to care for lacerations and wounds caused by self-injury. Student-athletes who engage in self-injury often suffer from a range of psychiatric disorders such as depression or other mood disorders, obsessive-compulsive disorders, addictions and psychotic disorders (SAFE, 2005), thus it is important referral occurs.

Mental health issues: attention-deficit hyperactivity disorder. Attention-Deficit Hyperactivity Disorder (ADHD) is a brain-based neurochemical disorder that may also have a genetic link (Amenkhienan, 2007). Inattention, over activity, and impulsivity are just a few of the major signs and symptoms for those suffering from ADHD. Student-athletes treated with medications may be suffering from side effects ranging from heart rate increases, sleep disturbances and abnormal eating patterns. Heil, Hartman, Robinson and Teegarden (2006) found that 7.3% of the interscholastic athletes they surveyed were diagnosed with this disorder. This statistic is close to the range of the diagnosis of ADHD in the general population that is typically 3-6%. Of the athletes diagnosed in this study, 94% take medications and 25% of those take medications during athletic

participation (Heil et al.). Many of the medications prescribed for this condition are stimulants that are banned by the International Olympic Committee (IOC) and NCAA. Thus, it is critical that certified athletic trainers are aware of medications taken, not only for the banned substance issues but also for the physiological effects, like insomnia, tachycardia, dizziness and anxiety, that the drugs may have on student-athletes. Student-athletes displaying signs of ADHD should be referred so that proper diagnosis can be made.

Mental health issues: violence. Although not a specific condition like the previous issues covered, violence can be categorized as a mental health issue. Violence is defined as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (Krug, Dahlberg, Mercy, Zwi, & Lorano, 2002, p. 4).

In the general college population, between 1995 and 2002, students 18-24 years old were victims of approximately 479,000 violent crimes each year. Crimes of violence reported were rape/sexual assault, robbery, aggravated assault and simple assault.

Studies of university student-athletes have shown that male student-athletes are at greater risk of violent behavior than non-athletes. They are more apt to be aggressive in relationships with women and are more tolerant of violence toward women overall (Kiefer, 2007). One survey found within the entire male university student population male student-athletes represented 3.3% of the population. That small percentage was accused of 19% of the campus sexual assaults (Kiefer, 2007). Student-athletes showing signs of severe aggression and physical violence against others may need referral so that

any negative consequences, such as team rule violations or legal ramifications, can be avoided. Researchers have examined the psychosocial aspects of violence in athletes (Craig, 2004; Ginsburg, 1997). According to Ginsburg (1997), implementing a psychosocial screening as part of a pre-participation exam for student-athletes may help to prevent violence related injuries. In an ideal situation, a violence risk assessment could be provided in the context of a comprehensive psychosocial screen. This assessment could explore the areas of self-esteem and body image. There are studies that have examined the role that alcohol may play in the violence and aggression exhibited by athletes (Craig, 2004; Pappas, McKenry & Catlett, 2004), yet it is apparent that more research needs to be completed.

With this in mind, it is necessary for certified athletic trainers to be aware of any signs and symptoms of violence because they will see student-athletes before a physician will (Prentice, 2003). Certified athletic trainers should be aware of the research regarding violence in student-athletes so that those in need of help will be directed to assistance. If underlying mental health issues are the primary problem, student-athletes need to be directed to mental health professionals who can offer effective treatment.

Psychological factors and sport injury. As mentioned earlier in this review, some mental health issues affecting student-athletes have not been extensively explored. There are some conditions, however, such as eating disorders and substance abuse that have received significant attention. Another area that has been given attention regarding the mental health of student-athletes is research concerning the psychology of sport injury. Because many specific mental health issues may occur as a result of injury, it is important to review this information. Experts in the field of sport psychology have produced some

significant findings that are directly related to the mental health of athletes. Information is available in regard to student-athletes both pre-injury (Andersen & Williams, 1988; Williams & Andersen, 1998) and post-injury (Wiese-Bjornstal & Shaffer, 1999), that highlight interesting findings related to student- athletes' mental wellness. As this review of literature continues, studies with an association to student-athletes' mental health post-injury will be highlighted.

Post-injury. As indicated earlier, the incidence of athletes suffering from psychological issues post-injury has been researched extensively (Brewer, 2003; Harris, 2003; Johnston & Carroll, 1998; Smith & Milliner, 1994; Wiese-Bjornstal, Smith & LaMott, 1995; Wiese-Bjornstal, Smith, Shaffer & Morrey, 1998). The APA identifies a variety of clinical syndromes, such as depression, adjustment reactions, and anxiety disorders that may exist in injured athletes (Cramer Roh & Perna, 2000). Some athletes may experience major distress, depression and internalized anger following an injury (Kerr, 1961; Livneh, 1991) while others may develop feelings of hopelessness and helplessness (Etzel et al., 2002). A few of these injured individuals have actually demonstrated serious or clinical levels of depression post-injury (Brewer, Petitpas, Van Raalte, Sklar & Ditmar, 1995). Etzel et al. (2002), point out that student-athletes may suffer from depression and suicidal ideation which would require intervention by a mental health professional. The risk of suicide in student-athletes who are experiencing post–injury depression increases if the student-athletes have other risk factors involved. These risk factors for suicide include stressful life events (injury), chronic mental illness, personality traits with maladjustment, family history of suicidal tendency/genetic predisposition and psychiatric disorder (Smith & Milliner, 1994). In addition, post-

concussion syndrome following head injury may lead some individuals to suicidal tendencies as well (Baum, 2005). An assessment of injured athletes at risk for suicidal behavior may be obtained through the Emotional Responses of Athletes to Injury Questionnaire (ERAIQ) (Smith,1990).

Baum (2005) suggests many risk factors that could play a role in student-athletes' suicidal tendencies including injury, psychosocial stressors, the pressure to win, substance abuse, retirement, Axis I psychopathology, and anabolic steroid use. In homosexuality, cultural factors, family history, eating disorders and gun ownership may also contribute to this risk (Baum). The risk factors may exist even prior to injury.

Although these severe reactions are the minority, there is obvious significance in the importance of referral for individuals who experience clinical depression after an athletic injury. It is imperative that certified athletic trainers recognize the signs and symptoms that may be present in depressed or suicidal student-athletes so referral is made before tragic consequences occur.

Mental health referrals. After reviewing many of the mental health conditions that certified athletic trainers may encounter in student-athletes, it is apparent that the need exists for certified athletic trainers to make referrals to proper mental health professionals when necessary. As this literature review continues, the mental health referral process will be examined. The role of certified athletic trainers in referral will be covered, followed by concerns specific to student-athletes' referral. Referral sources, such as sport psychologists and sport psychiatrists will be discussed next, as will specific college mental health referral programs.

Currently, there are no specific guidelines for the referral of student-athletes' mental health issues by certified athletic trainers. For this reason, it is helpful to identify other sources that provide guidelines and recommendations in this area, which can be utilized by certified athletic trainers. The Substance Abuse and Mental Health Services Administration (SAMHSA) has developed guidelines to aid teachers in the process of students' referral to mental health professionals (SAMHSA, 2006). Information such as this is lacking in the educational process of certified athletic trainers and should be included to ensure student-athletes are provided with the best health care possible. SAMHSA recommends referral to mental health professionals be made if students have memory gaps, are disoriented, agitated or depressed. Referral should also be made if students hear voices, feel they are going crazy, or threaten to hurt themselves or others. Other situations that need referral are self-mutilation, substance abuse, ritualistic acts or situations in which students are unable to care for themselves. It is critical that these conditions be referred so that students can obtain appropriate care (SAMHSA, 2006).

These same considerations and suggestions apply to college students and are very similar to the list Virginia Polytechnic Institution and State University [Virginia Tech] created for their faculty and staff after a student's recent deadly attack on that campus. Virginia Tech suggests all faculty and staff refer students who have extremely poor attendance and are asking repeatedly for deadline changes or who excessively procrastinate and submit poorly prepared work, especially if it is out of character. They also suggest referring students who are listless, fatigued, irritable, unruly and abrasive. Additionally, overly nervous, tense or tearful students should be referred, as well as those who have excessive weight gain or loss, exhibit marked changes in hygiene; are

dependent or express suicidal thoughts. They recommend faculty and staff express concern to students, listen carefully and repeat the information so that ideas are communicated correctly and avoid being critical or judgmental. They also recommend that faculty and staff refer students they are concerned about to campus counseling centers for further care (Virginia Tech, 2007). The University of Minnesota (2007) has similar recommendations for faculty and staff who may be concerned about a distressed student (University of Minnesota, 2007). This university emphasizes that faculty and staff members are in a good position to recognize that students may be in distress. They advise faculty and staff members to know their limitations, to speak to students directly and honestly, and to tell them a counselor could help. Offering immediate use of a telephone to schedule counseling appointments is also recommended. This information is an essential part of the certified athletic trainers' role in making referrals for similar situations.

The NCAA has also recently incorporated a handbook, *Managing Student-Athletes' Mental Health Issues*, which describes some common mental health issues student-athletes may experience and what the most effective management is for these athletes (Thompson & Trattner Sherman, 2007). These guidelines were developed to provide coaches information to effectively and quickly identify student-athletes who seem to be experiencing emotional symptoms or appear to be at high-risk for mental health concerns (Thompson & Trattner Sherman). The recommendations in this guidebook are similar to the university recommendations previously discussed in this section. Although a good starting point, this NCAA resource just touches the surface of what is necessary in the education of certified athletic trainers. Implementation of the advice provided in this

section for the management of distressed college student-athletes should be incorporated into athletic training curricula or continuing education formats.

Role of the certified athletic trainer in referrals. Next, the specific role of certified athletic trainers in the referral process of student-athletes with mental health issues will be discussed. The NATA requires that all certified athletic trainers have the knowledge to, not only recognize mental disorders but to refer them when necessary (NATA, 2004). The NATA also expects certified athletic trainers to possess the knowledge to know what resources are available to treat each mental health issue they encounter (NATA, 2004). Sports medicine professionals, such as certified athletic trainers, may be the only medical practitioners student-athletes frequently see, thus they are in the best position to help student-athletes with mental health referrals when necessary (Ray & Wiese-Bjornstal, 1999). This position enables certified athletic trainers to encourage student-athletes to accept mental health referrals (Henderson & Carroll, 1993). Etzel et al., (2002) stress the importance of training and educating sport professionals so that student-athletes receive appropriate assistance for mental health issues. Etzel and colleagues emphasize the necessity of identification, tentative diagnoses, early intervention, and referral regarding clinical issues that student athletes may be experiencing (Etzel et al.).

Lemberger (2008) suggests certified athletic trainers employ three different levels of referrals for student-athletes. Level-one referrals were used for student-athletes who would benefit from working with a mental health specialist but were not actively confronted by a psychosocial issue. Level-two referrals were indicated if student-athletes had emergent psychosocial issues such as heightened anxiety, irritability, withdrawal or decreasing personal hygiene. Level-three referrals were considered emergency situations

demanding immediate referral due to volatile issues with the possibility of harm to the student-athletes or others (Lemberger).

Education in this area varies at each institution. Misasi et al. (1996) conducted a survey to determine educational background, counseling practices and referral sources of college/university certified athletic trainers. This survey found the top three areas of counseling provided by certified athletic trainers to be injury rehabilitation, injury prevention and nutrition. These areas coincided with the subjects certified athletic trainers felt their academic programs prepared them well for. The certified athletic trainers surveyed did not feel they had adequate academic preparation to respond to their athletes' concerns regarding financial issues, racial issues or family matters. Because of this, certified athletic trainers reported they rarely provided counseling in those areas. Suicide was at the bottom of the list in terms of both academic preparation to handle such a situation and counseling provided to suicidal student-athletes. After reviewing Smith and Milliner's (1994) research regarding post-injury depression and suicide, and Misasi et al.'s research regarding certified athletic trainers' counseling preparedness, it is evident that further education in the area of mental health issues would benefit both certified athletic trainers and the student-athletes they serve.

Athlete referral. Next, the importance of student-athletes' referrals for mental health issues and some of the challenges encountered in the referral process will be reviewed. Finding a mental health professional that is qualified to work with student-athletes may pose a challenge. Some of the mental health professionals that may be available for student-athletes' referrals are sport psychologists, sport psychiatrists, mental health counselors, as well as traditional psychologists and psychiatrists. It is critical for student

athletes to be placed with mental health professionals who understand the pressures and demands on student-athletes in our society today. Some of the psychological conditions that should be referred to qualified mental health specialists are family difficulties, substance abuse, weight problems, depression, anger, anxiety and pain. In the case of injured athletes, referral is appropriate when symptoms of psychological distress are present outside of rehabilitation and if the symptoms persist for several days (Taylor & Taylor, 1997). Once referral is made to mental health professionals, it is essential that a good relationship is developed between the practitioners and student-athletes. It is also imperative that all those linked with the student-athletes' health care be involved so the highest level of assistance can be provided. The student-athletes may need to be educated and encouraged to accept the referral and to collaborate on treatment. In turn, educating the mental health professional on the need for cooperation and adaptation to the student-athletes' demanding schedule may also be necessary for a successful referral process (Taylor & Taylor).

Sport psychology referrals. Now that the need for student-athletes' mental health referrals has been established, some of the specific mental health professionals and mental health referral programs that are beneficial for student-athletes will be discussed. Sport psychologists work closely with student-athletes to ensure optimal mental health is achieved and maintained throughout an athletic season. Some sport psychologists focus on performance enhancement, while others address the specific psychopathology and psychological problems in athletes (Baum, 1998). These professionals work closely with student-athletes to help reduce stress and anxiety. This stress may be directly related to competition or may come from other aspects of student-athletes' lives. At this point,

eating disorders, emotional disturbances, overtraining and risk-taking behaviors like substance abuse have been the focus of this field (Purper-Quakil, Michel, Baup & Mouren-Simeoni, 2002). Institutions, including the University of Minnesota, have already incorporated a clinical sport psychologist into their athletic program (Novak, 2004). However, there are many other institutions that do not have easy accessibility to a sports psychologist. Three-fourths of certified athletic trainers indicated that they do not have access to a sport psychologist (Cramer Roh & Perna, 2000). Although many certified athletic trainers may not have access to a sport psychologist, Petrie et al. (2004) found they do feel confident in referring student-athletes to sport psychologists for treatment in the areas of performance enhancement and post-injury issues.

Sport psychiatry referrals. As mentioned earlier, sport psychology referrals are becoming more prevalent, however, due to the stigma surrounding mental illness, sport psychiatry referrals are still quite limited (Brooks & Bull, 1998). Sport psychiatrists are medical doctors who specialize in psychiatry with a specific emphasis on sport. Begel (1992) emphasized that sport psychiatry, though still relatively untapped, could provide beneficial information to those working with athletes.

There is a need for more clinical studies of athletes, especially in the realms of childhood traumas, competitive issues, and mental illnesses. Because of the close relationship of mental and physical phenomena in sports and because athletic behaviors are often precisely measurable, athletics may constitute a fruitful area for psychiatric research (Begel, 1992, p. 606).

As research continues and programs advance in the field of sport psychiatry, certified athletic trainers will have more opportunities to refer student-athletes to these professionals when necessary.

Specific collegiate mental health referral programs. The next portion of this literature review will examine some programs already in place that focus on the well-being of student-athletes. Some of the programs reviewed are aimed at developmental issues, while some programs are aimed specifically at mental health issues in athletes. Successful programs reviewed that have demonstrated success with the general college student population could easily be applied to student-athletes specifically.

One resource with the mission of preventing suicide in college students is The Jed Foundation - Ulifeline (2005) is another resource with the mission of preventing suicide in college students. This foundation has adopted the position that pharmacology, psychotherapy, and lifestyle/cultural changes are all contributing factors in college students' mental health wellness. This program focuses on the underlying mental health issues surrounding suicide and uses this as the basis for prevention and intervention programs on college campuses (Jed Foundation, 2005). Programs like this, although designed for the general college population, are an impressive step in recognizing the need for student-athletes to receive prompt and effective mental health care when necessary. As more institutions develop such programs, student-athletes struggling with mental health issues of any sort will benefit.

One program that has been developed to address some of the developmental issues of student-athletes is the NCAA's CHAMPS (Challenging Athletes' Minds for Personal Success) life skills program. A multitude of NCAA Division I, II, and III institutions

have adopted this program to focus on the overall development of student athletes. The five areas of focus at this program's core are academic excellence, athletic excellence, personal development, career development and commitment to service. This program encourages emotional well-being, personal growth and decision making in addition to encouraging academic and athletic success. Some of the 582 institutions involved in CHAMPS life skills involve their certified athletic trainers in the implementation; however, it is not a requirement of the program to involve certified athletic trainers (NCAA, 2006).

Another program receiving attention is the QPR (Question, Persuade, Refer) for Athletes. The QPR Institute (2005) recognizes that while student-athletes are not immune to mental health issues, they may be reluctant to deal with them. In partnership with the NMHA, the QPR Institute hopes to raise awareness levels about mental health, thus reducing the stigma associated with mental illness. This program offers mental health screening programs for student-athletes, as well as suicide prevention programs for athletic departments (QPR, 2005).

In addition to some of the professional programs mentioned in this review, some collegiate institutions are meeting the need for mental health referrals by creating formal plans to help referrals transition smoothly. Effective communication between student-athletes, certified athletic trainers and mental health professionals is critical. The University of Minnesota has implemented a plan to address the increasing need for a mental health referral program for their student-athletes. The athletic training staff was overwhelmed with the seriousness of some of the cases and at times, felt unprepared to handle situations with the resources available (Novak, 2004; Wiese-Bjornstal, 2004). A

mental health triage program was developed to reduce the burden on certified athletic trainers, and to enable the athletic medicine staff to receive information regarding follow-up on student-athletes' care (Cullen, Novak, & Wiese-Bjornstal, 2004). A successful program such as this would greatly benefit certified athletic trainers faced with making critical decisions regarding student-athletes' mental health referrals. Similarly, McDuff, Morse, and White (2005) encourage the implementation of Team Assistance Programs (TAPs) within intercollegiate athletic programs, which address issues such as substance abuse, stress recognition, mental illness management, tobacco cessation and cultural support. It was found that strong links with teams' medical staffs can increase TAP referrals and thus build trusting relationships between student-athletes and staffs.

Assessment. There are many screening tools that help identify individuals experiencing mental health difficulties, but for this review some of the most readily available tools used in the general college population will be highlighted. This section of the review will define the purpose of each tool and the role each could play in assessing student athletes' mental health. The screening tools discussed are not used for diagnostic purposes, but are used to identify individuals who may need referral for additional mental health evaluations. Although these screening tools are not aimed at student-athletes specifically, they are tools that most university counseling centers have access to if the need arises. Certified athletic trainers who are concerned about student-athletes' welfare can refer them to these centers for further evaluation. Unfortunately, no statistics are available at this time regarding student-athletes' results on the screening tools reviewed.

Many available assessment tools utilized with the general college student population are offered through Screening for Mental Health. This organization offers programs and

services such as National Alcohol Screening Day, National Depression Screening Day (NDSD), the National Eating Disorders Program and the SOS Suicide Prevention Program. Additionally, Screening for Mental Health offers online screenings for depression, generalized anxiety disorder, bipolar disorder and post-traumatic stress disorder. The tools described below are used at colleges and universities that participate in the Screening for Mental Health events (Screening for Mental Health, 2005).

Harvard department of psychiatry/national depression screening scale. The first tool I examined was the Harvard Department of Psychiatry/National Depression Screening Scale (HANDs) for depression (Baer et al., 2000). This tool was developed for use on National Depression Screening Day (NDSD). National Depression Screening Day was established in 1991 to raise public awareness of depression as an illness, to make it known that effective treatments are available, to help depressed individuals not being treated recognize that they are depressed and to encourage them to seek help (Baer et al., 2000, p. 36). This tool is limited in its ability to recognize the physiological effects individuals may be experiencing due to substance abuse or medication. It is also incapable of determining the effects of general medical conditions, as well as grieving, that may influence individuals' mental health. Additionally, HANDS should not be used to determine mixed episodes of depression such as bipolar disorder. All of the aforementioned cases are more effectively diagnosed through clinical interviews and other evaluation methods (Baer, et al.). This tool is very effective, however, for those individuals who are suffering from depression and may not have recognized the need for further treatment without participating in this screening. Those trained to administer this

screening will ensure individuals showing signs of depression are referred for further diagnosis.

Short post-traumatic stress disorder rating interview. Another tool readily available on most college campuses is the Short Post-Traumatic Stress Disorder Rating Interview (SPRINT). The SPRINT-4 is a 4-item scale that serves as an effective and brief global assessment for post-traumatic stress disorder (Connor & Davidson, 2001). Post-traumatic stress disorder can leave individuals with intense fear, horror or a sense of helplessness due to experiencing a terrifying event or ordeal that may have been life-threatening or caused physical harm (PTSD Alliance, 2006). Approximately 5% (13 million) of Americans suffer from PTSD at any given time (PTSD Alliance, 2006). Currently, there are no statistics available specific to student-athletes with PTSD, but the SPRINT has been found to be a reliable and valid method for the measurement of PTSD illness severity. The SPRINT can be taken in a very short amount of time and has demonstrated its effectiveness as a valid and reliable measure of PTSD severity. The SPRINT is a screening tool and is not used for diagnosis. Further evaluations by mental health professionals should be completed on those with high scores on the SPRINT.

Carroll-Davidson generalized anxiety disorder screen. The Carroll-Davidson Generalized Anxiety Disorder (CD-GAD) Screen is also used frequently on college campuses today (Carroll & Davidson, 2000). The GAD is a 12-item screening tool for Generalized Anxiety Disorder, which measures GAD symptoms occurring over the past six months. This screening tool can determine which individuals should be referred for

further evaluation of their anxiety. Statistics regarding student-athletes' results on the CD-GAD are not available.

Eating attitudes test. Yet another screen that is commonly used on college campuses today is the Eating Attitudes Test (EAT-26) (Garner, Olmsted, Bohr & Garfinkel, 1982). The EAT is a standardized measure of the signs and symptoms prevalent in eating disorders. Although many factors should be considered when diagnosing an eating disorder, Mintz and O'Halloran (2000), found that EAT-26 has an accuracy rate of at least 90% when used as a differential diagnosis between those with and without an eating disorder.

Alcohol use disorders identification test. The last tool I reviewed was the Alcohol Use Disorders Identification Test (AUDIT). The AUDIT is regularly used on college campuses across the nation as a part of National Alcohol Screening Day. The World Health Organization originally developed the AUDIT to serve as a brief assessment of excessive drinking habits. Since being developed, it has served to not only identify excessive drinking problems, but also to provide a framework for decreased alcohol consumption by those with hazardous and harmful drinking habits. The AUDIT consists of twenty-three questions that review individuals' drinking habits over the past 12 months. It also reviews some general family history of alcohol and mental health treatment. As with the other screening tools used in this study, it is important to remember that the AUDIT cannot be used for diagnostic purposes (WHO, 1992). The AUDIT is brief, yet effective, and has proven to be better than other alcohol use

questionnaires in its ability to evaluate recent alcohol use and to evaluate the whole range of alcohol problems.

Curriculum possibilities. As the need for more education on mental health issues for certified athletic trainers is established, methods and topics for implementation will have to be investigated. Continuing education courses, textbooks and journal articles currently used can all be beneficial resources of information, but other avenues of education should also be explored. The next section of this review will detail various developmental approaches and provide support as to why their inclusion in an athletic training curriculum would be beneficial. The concepts of the sport ethic phenomenon and support seeking in athletics will be discussed as will the benefits of integrating these concepts into athletic training curriculums.

A developmental approach. As indicated earlier in this review, the inclusion of life skills programs may be beneficial in the recognition of variations in student-athlete behavior as they progress through college. The following section will review research which supports the use of a developmental approach for those working with college student-athletes. Danish and Hale (1981) promoted an educational-developmental framework with the goal of treating students as whole people as opposed to solely athletes. This theory recognizes that the needs of student-athletes will vary from one year to the next, thus varying life skills for each level, from freshman to senior year, can be taught. Danish and colleagues later created a psychoeducational model of life skills that was entitled the "Life Development Program." This model consisted of six stages: goal assessment, knowledge acquisition, decision-making skills, risk assessment, creation of social support, and planning of skill development (Danish & D'Augelli, 1983; Danish,

D'Augelli & Ginsberg, 1984). More recently, an intervention program aimed specifically at collegiate student-athletes was developed and entitled the Life Development Intervention program (Danish, Petitpas, & Hale, 1993).

Another life skills model was developed through the work of Morrill, Oeting, and Hurst (1974). This model looked at the target of intervention that could include individuals, groups, communities or institutions. According to the authors, this model is a good representation of the relationship between counseling psychologists and athletic departments regarding services provided to college student-athletes (Morrill et al.).

Chickering (1969) introduced the concept of seven vectors, or tasks, of college student development. The seven vectors are: developing competence, managing emotions, moving through autonomy through interdependence, developing mature interpersonal relationships, establishing identity, developing purpose and developing integrity. The first four vectors typically develop in the first and second years of college, whereas establishing identity emerges in the fourth year and developing purpose and identity in the years immediately after college. Later work by Chickering and Reisser (1993) emphasized the need for education regarding broad based development of human talent and potential. The 1993 works were modified to encompass a wider age group, keeping in mind that age does not always correlate with maturity. This later version also placed greater emphasis on interdependence, suggesting that individuals can achieve emotional autonomy and still rely on others for support. Chickering and Reisser also examine the social influences that can impact the development of individuals. They found that the values, standards and interests of a groups that individuals belong to will have tremendous influence on development. College students will be greatly influenced

by their close friends and the "subculture" of the campus environment. (Chickering & Reisser, 1993) Student-athletes will also develop their identity by growing and developing as a part of their teams or communities. Harris (2003) emphasizes the importance of developing a theory based on Chickering's 1969 work on psychosocial development. Harris (2003) suggests Chickering and Reisser's 1993 revision of this theory, in combination with the Kubler-Ross stage theory, could be beneficial for student-athletes. Thus, it is critical that coaches and teammates provide positive influences, so that healthy development can occur.

Certified athletic trainers could use this information to better understand the psychosocial development of the student-athletes they are working with. Student-athletes with difficulty in goal setting, developing social support and making mature decisions may benefit from a program like this. By recognizing what behaviors can be attributed to developmental changes, certified athletic trainers achieve a better understanding of student athletes. In addition to Harris (2003), Fitch and Robinson (1999) also recommend that those counseling student-athletes use Chickering and Reisser's theory. The concept of evaluating the developmental needs of student-athletes deserves additional research with specific adaptation to benefit those in the profession of athletic training.

Sport ethic's influence. The next portion of this review will examine some well researched areas of sport psychology and how the inclusion of these topics in athletic training curricula could be beneficial. The first area to be discussed is sport ethic's influence on student-athletes' mental health. Incorporating this information in an athletic training curriculum may benefit future certified athletic trainers in their care of collegiate

student-athletes. Certified athletic trainers who develop an understanding of the reasons for negative behavioral patterns will be better prepared to handle student-athletes who are in denial of their pain or who are abusing substances.

Fear of failure has been documented as a reason athletes use drugs (Taylor, 1990). It is possible that the notion of a "sport ethic" has driven student-athletes to take risks and to play with pain simply out of fear of failure. Hughes and Coakley (1991) introduced the term sport ethic to describe the attitude of athletes to play through pain, take risks and make personal sacrifices to adhere to the high expectations of sport that they are challenged with. This behavior leads to student-athletes' fear of appearing weak and vulnerable in front of coaches, teammates and others. This fear also prevents some student-athletes from accepting assistance with coping skills and from social support networks when the need is the greatest (Shaffer & Wiese-Bjornstal, 1999). If the sport ethic phenomenon was diminished, more student-athletes might seek help from social support networks when needed. This can be applied to any type of situation student-athletes are confronted with, and not only situations involving injury. Coaches or parents are extremely detrimental when they expect student-athletes to deny pain or injury, and to exercise harder and longer than others, in order to compete (Sherman & Thompson, 2001).

Coakley (1998) suggests that some student-athletes may use their participation in sport to escape from the frustrations they are experiencing in life. Escaping in sport may provide student-athletes with the coping mechanism they need to handle their frustrations, thus reducing their tendency toward violence. A differing perspective may be that athletics has encouraged student-athletes to be aggressive and violent. Some

student-athletes see intimidation and violent behavior as normal for their sport. They strive to be perceived as tough and/ or masculine. Messner (1992) found that many male athletes never perceived their violence in sport as wrong or abnormal because it was within the limits and rules of the game. Thus it was "natural" for them, as long as it was not motivated by anger. However, this tendency toward violence to handle frustrations and succeed may be harmful in other aspects of the athletes' lives. It is possible that student-athletes are using their time at practice and games to focus on their athletic skills, which takes them away from the stresses of their daily life.

The sport ethic concept is important for certified athletic trainers to understand and may help them comprehend student-athletes' mental health issues more effectively. Passing this information on to student athletic trainers is also beneficial.

Support seeking. Coaches, student-athletes, media, certified athletic trainers and others involved with sports may neglect to remember that student-athletes are human and have both strengths and weaknesses; unfortunately this leads to delayed care that can be detrimental to the student-athletes' overall well-being. One study regarding student-athletes' perceptions of referral, (Ahlgren,Watson, Klug & Etzel, 2004) examined collegiate student-athletes' perspectives on support seeking. The main reasons student-athletes noted they would not seek support were: that they handled their own problems, they had a lack of time and they had a fear of opening up to strangers. The top reasons they felt they needed support were related to stress, burnout and fear of failure. The student-athletes stated that their primary sources of support were family members, non-student-athlete friends and teammates. Life skills coordinators, sport psychologists and university counselors were the most satisfying sources of support (Ahlgren et al., 2004).

Ahlgren et al. states that it is important to make support-seeking more attractive for collegiate student-athletes so they seek help when necessary. Brooks and Bull (1998) discovered that female collegiate student-athletes had a more positive perception of sport psychologists than mental health professionals because they were not necessarily associated with mental health practitioners, yet they still possessed great expertise in the area of mental health issues. Opinions of student-athletes' support systems may also influence their perception of sport psychologists consults. If peers and family members have a negative perception of sport psychology consultations, student-athletes may be influenced by that opinion (Martin et al., 2001). Understanding the elements of support seeking and understanding athletes' possible resistance to accepting mental health referrals are both important ideas to incorporate into athletic training curriculums.

Need for the study. There is a need for continuing research in many areas of athletic training so the profession can continue to advance. Knight and Ingersoll (1998) emphasize that scholarship is an important area of athletic training to both enhance professional standing and improve the standard of care provided. My study explored the recognition and referral practices of certified athletic trainers in the area of mental health issues in student-athletes. Exploring this area will enhance the care provided to student-athletes by certified athletic trainers in the future by finding any areas in which certified athletic trainers need additional training. Based on these findings changes can be made to curricular programs, continuing education offerings and practical applications regarding the recognition and referral of mental health issues in the athletic training setting.

Intercollegiate certified athletic trainers should be aware that mental health issues exist in student-athletes they work with. As evidenced from this review of literature,

student-athletes are experiencing mental health issues and the education certified athletic trainers receive on this subject is lacking. College students experience mental health issues due to genetic predisposition, transitional challenges and stress from academics, finances and relationships. Student-athletes encounter these same stressors, and additionally, are faced with a multitude of pressures directly attributed to their athletic responsibilities. It is crucial to remember student-athletes are normal people and are susceptible to the same trials that all human beings encounter. With this in mind, it is imperative that student-athletes are not overlooked in the realm of mental health. Unfortunately, many of the mental health issues mentioned in this review of literature are often misunderstood, thus coaches, athletes and perhaps even certified athletic trainers are incapable of acknowledging the signs that may be present. Due to this misunderstanding, the stigma surrounding mental health issues may play a role in athletes not seeking appropriate help when needed. "Seeking help is seen as a sign of weakness, when it likely should be recognized as a sign of strength" (Putukian & Wilfert, 2004, p. 2). Early intervention and referral of mental health issues may be delayed in the student-athlete population for a number of reasons. According to Putukian and Wilfert, athletic performance is not always linked to mental wellness, and thus is not considered a necessity. In addition, student-athletes' high profiles on campus and in the community may create undue attention when help is sought. Athletic departments "may be in denial and desire to disassociate mental illness in any way with athletic participation" (Putukian & Wilfert, p. 3).

Each day certified athletic trainers encounter student-athletes who are experiencing a tremendous amount of stress while they balance academic performance with athletic

performance. Additionally, these student-athletes are under continuous pressure to perform community service, attend team functions, and fulfill media obligations. Statistics indicate that approximately 15% of today's NCAA intercollegiate student-athletes are in need of counseling due to daily issues they face (Hinkle, 2002). Often times, certified athletic trainers may serve as student-athletes' primary health care providers; thus, it is vital that certified athletic trainers possess the knowledge to recognize signs and symptoms of any injuries or illnesses student-athletes may encounter. In addition, referrals to appropriate medical professionals must occur. Certified athletic trainers who do not recognize and refer these conditions appropriately will not be as effectual in their role as health care providers (Cramer Roh & Perna, 2000). Larson et al., (1996) found that 53% of certified athletic trainers surveyed encountered student-athletes that experienced emotional distress and anxiety, yet only 24% of those certified athletic trainers reported referring student-athletes for counseling. A related study found that student-athletes often approached certified athletic trainers for personal issues not related to athletic injury. Moulton and colleagues found that 79% of certified athletic trainers studied revealed a need for continuing education in the area of counseling (Moulton et al., 1997). All certified athletic trainers are expected to possess the knowledge necessary to recognize a wide variety of mental health issues. Many certified athletic trainers, however, do not feel comfortable in this area due to lack of educational background.

It is important to reduce this feeling of discomfort in certified athletic trainers so they feel confident in recognizing and referring student-athletes when necessary. Again, incorporating a learning theory that addresses self-efficacy would be effective in developing the self-confidence needed.

According to the NATA, it is expected that certified athletic trainers will intervene if a student-athletes' physical or mental health is compromised**.** The NATA Role Delineation Study includes the following expectation: "Provide guidance and/or counseling for the appropriate patient(s) in the treatment, rehabilitation, and reconditioning of injuries, illnesses, and/or conditions through communication to facilitate recovery, function, and/or performance" (NATA, 2004, p.24). This domain requires knowledge of referral resources and the characteristics of psychosocial dysfunction, as well as identification of patients appropriate for counseling and referral. A growing number of student-athletes are being diagnosed and treated for mental health issues and it has become evident that there is a need for more education for certified athletic trainers regarding mental health issues. Since certified athletic trainers are often the first to recognize that athletes may need referral to mental health professionals, improving educational programs in the area of mental health conditions may be necessary to ensure that athletes are receiving the best possible care from their certified athletic trainers. All certified athletic trainers are expected to possess the knowledge necessary to recognize a wide variety of mental health issues. Many certified athletic trainers, however, do not feel comfortable in this area due to lack of educational background. This study examined what mental health issues certified athletic trainers encountered and how they addressed the referral process for the student-athletes involved. This study also examined how certified athletic trainers recognized these conditions and how they were trained to intervene when necessary.

Purpose of the study. The present study explored what mental health concerns certified athletic trainers encountered in student-athletes they worked with. It also examined the referral processes certified athletic trainers implemented for these student-athletes. In addition, the study determined how the certified athletic trainers gained the knowledge to properly recognize and refer student-athletes with mental health concerns.

The research questions for this study were as follows:

- What mental health concerns are experienced certified athletic trainers seeing in university student-athletes?
- What role have certified athletic trainers assumed in the recognition and referral of mental health issues in intercollegiate athletes?
- What educational and experiential background prepared the certified athletic trainers to recognize, intervene and refer mental health concerns in student-athletes?

Chapter Two

Methods and Design

This chapter outlines the research design methods I used to describe certified athletic trainers' recognition and referral of mental health issues in intercollegiate student-athletes for both the pilot study and the current study. First, I explain the rationale for using a qualitative interpretivist approach and a description of the researcher's role in the studies. Next, I provide measures used for the pilot study, participant selection and data collection. Finally, I detail the procedures used for data analysis.

Research Design

The design I used in my study was a qualitative, interpretivist approach. According to Marshall and Rossman (2006), qualitative, interpretive research is pragmatic, naturalistic and grounded in the participants' lived experiences. "This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them" (Denzin & Lincoln, 2000, p. 3). Key assumptions of this design are that the results will reflect the natural setting of the athletic training environment, will focus on context, is emergent rather than prestructured and is interpretive (Marshall & Rossman, 2006). Because my study sought to describe athletic trainers' interactions and experiences within the athletic training environment, this approach allowed me to interpret and understand the phenomena certified athletic trainers shared about their encounters with student-athletes suffering from mental health issues.

Many quantitative studies have been conducted in the profession of athletic training which have reflected the number of athletic injuries that have occurred and the

circumstances that have surrounded the injuries. Many of these studies are conducted through surveys and questionnaires which gather quantitative data which can be statistically analyzed for empirical data. Statistics produced can then provide reasoning for changes in equipment design, and conditioning practices as well as rule modification in a variety of athletic events. Quantitative research design can be a very effective tool for advancement in many areas of the athletic training profession. Previous athletic training research has been quantitatively based examining injury, pathology and treatment (Arnold, Gansnedder, & Perrin, 2005). For example, injuries in the sport of baseball were recorded over a number of years to determine key areas for injury prevention initiatives (Dick, 2007). Quantitative research reflects traditional research that may sometimes be referred to as scientific or empirical research (Creswell, 2003). Quantitative research design begins with a theory, data is collected and necessary revisions are made prior to additional testing (Creswell). According to Marshall and Rossman (2006), however, one of the greatest weaknesses in surveys or questionnaires used in quantitative research design was that they were of "little value for examining complex social relationships or intricate patterns of interaction" (p. 131).

Some areas of athletic training research have best been conducted qualitatively through the use of interviews and observational techniques (Arnold et al., 2005). Studies that examine individuals in natural and real life situations are most effectively analyzed through qualitative research (Creswell, 2003; Denzin & Lincoln, 2000; Marshall & Rossman, 2006; Miles & Huberman, 1994). Pitney & Parker (2001, 2002) stress that qualitative research, such as mine, facilitates a depth of understanding in the field of athletic training that has not been attained quantitatively.

Determining what mental health issues certified athletic trainers observed in student- athletes they worked with and how the athletic trainers managed these circumstances could best be answered qualitatively. Certified athletic trainers interviewed had varying experiences to draw from and thus as a whole provided a wide range of data to collectively examine. The design of my study was not limited by preconceived ideas, thus concepts emerged as data was analyzed. The emergent nature of the data led to rich, thick descriptions of certified-athletic trainers' experiences. Scholars found holistic, rich data was valuable and had a strong impact on the reader (Creswell, 2003; Denzin & Lincoln, 2000; Miles & Huberman, 1994). Exploring an idea this way allowed the researcher to assess causality by discovering what actually occurred in a particular environment (Miles & Huberman, 1994). Pitney and Parker (2001) recommended employing a qualitative technique when inquiring about athletic trainers' relationships with other medical professionals, athletes, and administrators. Therefore this design approach was appropriate for my study due to the importance of the relationships and communication between mental health professionals, student-athletes, coaches and the certified athletic trainers involved.

Another aspect of qualitative research that suited my study well was its value in examining a topic that has not been explored in great detail (Creswell, 2003). As illustrated in the review of literature, little research had been conducted in the area of certified athletic trainers' roles in the recognition and referral of mental health issues in student-athletes, thus it was appropriate that my study was exploratory and not limited to a quantitative format in which variables were predetermined. Approaching the study

without the constraints of set categories contributed to the depth, openness and detail of the data gathered (Patton, 1990).

The Researcher's Role

Scholars have found that acknowledgement of the researcher's role was a fundamental component of any qualitative study (Creswell, 2003; Marshall & Rossman, 2006). After twenty years of serving as a certified athletic trainer in the university setting, I felt that I possessed the knowledge, understanding and sensitivity of the issues faced by other experienced certified athletic trainers. Over the past ten years, I observed an increase in the number of student-athletes requiring referrals to mental health professionals. I had also seen an increase in the number of student-athletes who entered college already under the care of medical practitioners for treatment of mental health conditions. This increasing need to recognize, refer and work successfully with student-athletes experiencing mental health concerns intrigued me; I wanted to explore this topic with other members of my profession. Due to my own professional experiences, some bias may have existed in the way data was collected, analyzed and interpreted. However, care was taken throughout this study to ensure this bias did not interfere with data collection and analysis. This was accomplished through a variety of trustworthiness measures including member checking and the use of a peer debriefer. These methods for insuring trustworthiness will be detailed later in this chapter.

In qualitative research, the researcher is the instrument for data collection (Marshall & Rossman, 2006). In serving as the research instrument for my study, various technical and interpersonal considerations were taken into account prior to conducting the study. Technical considerations made prior to conducting research were things such as deciding

how much information regarding the study would be revealed to participants and the amount of time the study would last. Interpersonal considerations were things such as building trust and maintaining good relationships within the study (Marshall & Rossman, 2006).

Technical and interpersonal considerations of the researcher's role. The extent to which the participants were aware of the study being conducted, or the "revealedness," is a technical consideration that needed to be thought out (Marshall & Rossman, 2006). Some studies require secrecy from participants, while others allowed for full-disclosure. Patton (1990) asserted that full disclosure of a study's purpose to participants was beneficial. My role included clarifying time requirements, the extent of the involvement, and the actual objectives of the study for participants before they were interviewed. The time I was involved with the participants and their setting was another technical consideration. Marshall and Rossman refer to this concept as intensiveness and extensiveness. For this particular study, I was minimally intrusive, spending approximately 60-90 minutes with each participant. Well-developed research questions assisted the researcher in using this time effectively (Marshall & Rossman). I used multiple participants so exploration of a variety of perspectives and phenomena occurred. The matter of access to participants was also a technical consideration utilized in my study. As the primary investigator, I acquired access to initial participants through prior professional relationships with other certified athletic trainers. The initial interviewees served as gatekeepers for access to additional participants. This method of access to primary gatekeepers was recommended for qualitative research and proved useful to successfully gaining access to additional participants (Marshall & Rossman, 2006).

In addition, the consideration of ethics in my study was also a technical consideration that was implemented. This study followed all University of Minnesota Institutional Review Board (IRB) guidelines for protection of human research subjects (See Appendix A), including an informed consent form that was provided and read to all participants before interviews were conducted (See Appendix B). The form explained that participation was voluntary and if at any time a participant wanted to be excluded from the study, he or she was allowed to withdraw. The treatment of interviewees was in accordance with the ethical standards of the APA (see principles 5.01-5.10 and 6.06-6.26 in the "Ethical Principles of Psychologists and Code of Conduct," APA, 1992). All interviews were recorded in accordance with APA 5.01c "Permission for electronic recording of interviews was secured from clients and patients (APA, 1992). Research records are stored securely and only I have access to the records. In any sort of report that might be published, no information will be included that will make it possible to identify subjects.

Next I defined some of the interpersonal considerations of the researcher's role. Implementing excellent interpersonal skills was critical to gaining access to, and cultivating quality relationships with the participants (Marshall & Rossman, 2006). Interpersonal considerations like these, combined with the knowledge of the practices, setting and environment of the participants, aided me in building the trust required to gather data effectively. According to Marshall and Rossman, interpersonal considerations also require that the researcher understands the politics and ethics of the organization involved in the study and that the researcher employs sensitivity to the human interactions involved. I met these interpersonal considerations by being a member

of the National Athletic Trainers' Association therefore being fully aware and abiding by the same Code of Ethics that all certified athletic trainers I interviewed were practicing under. My prior knowledge of the athletic training profession and setting helped to develop a level of trust with those interviewed.

Pilot Study

A pilot study was conducted by interviewing four certified athletic trainers regarding their recognition and referral of mental health issues in intercollegiate student-athletes. Utilizing a pilot study contributed to the effectiveness of my study in designing strategy which strengthened the analytic focus of research (Marshall & Rossman, 2006).

I limited the criteria for the four individuals interviewed. Pilot study participants were required to be NATA certified athletic trainers who were currently employed in a university setting within a 100-mile radius of the University of Minnesota. Specific demographics included the following: participant ages ranged from 23 to 55 years of age and all were employed at NCAA Division III institutions. The gender of participants was equitable: two females and two males were interviewed. Diversity in age and gender was important to get a broad range of feedback to determine if questions were written effectively. In addition, convenience of access to participants was also taken into account for the pilot study.

Questions for the pilot study were written under the guidance of two expert instructors in the field of qualitative interviewing before they were administered to the participants. These questions were developed so as not to lead interviewees into my biases, and also to ensure all questions were open-ended and would promote in-depth

responses. Interviews were conducted at the office of each participant and audio recorded. Tape recordings were then typed verbatim..

The pilot study found that all of the certified athletic trainers interviewed had encountered student-athletes experiencing mental health issues. Mental health issues encountered ranged from disordered eating patterns and self-injury to depression and suicide attempts. Referrals were made to a wide variety of sources including but not limited to, clergy, campus counseling centers and emergency rooms. Interviewees indicated they had learned the most about the recognition and referral of mental health issues in student-athletes through practical experience, as opposed to classroom instruction.

With the exception of the first question (** marked with asterisks), the pilot study confirmed that the questions posed were effective in obtaining the desired information for the proposed study (See Appendix C).The first question was eliminated due to its close-ended format, which was ineffective for the current research. In addition to establishing the effectiveness of interview questions in gaining in-depth, thick descriptions, the pilot study also confirmed that each certified athletic trainer needed at least five years practice in the area of intercollegiate athletics. One of the initial interviewees had one year of experience working as a certified athletic trainer with student-athletes and the others had more than five years experience working in this position. Due to the lack of time spent working with student-athletes, the less-experienced interviewee provided less data in the recognition and referral of mental health issues in student-athletes. Because of the lack of data provided, the criteria for the proposed study was changed and raised to a minimum of five years experience working with intercollegiate student-athletes.

Conducting this pilot study led me to modify the format of the proposed study to develop an effective strategy for obtaining pertinent research data. In addition to question and participant criteria modification, another advantage of conducting a pilot study was to hone my interviewing skills. It was important to ask precise questions so specific information regarding the recognition and referral of mental health issues by certified athletic trainers could be gathered. As Patton (1990) suggests, "skilled questioners ….shall be given mountains of words to ascend [and] wise questioners ….. shall unlock hidden corridors of knowledge" (Patton, p. 359). In other words, a skilled interviewer will be provided with a wealth of information and must disseminate it effectively.

The section that follows details the procedures utilized in my current study. I begin with participant selection, followed by data collection which includes the interview guide and procedures, and data analysis and trustworthiness.

Participant Selection

I employed a combination of purposeful sampling (Patton, 1990) and snowball sampling (Marshall & Rossman, 2006) techniques to explore the role that certified athletic trainers have in the recognition and referral of mental health issues in intercollegiate student-athletes. Purposeful sampling provided "information-rich cases whose study [illuminated] the questions under study" (Patton, p.169). Snowball sampling was used to identify "cases of interest from people who know people who know what cases are information-rich" (Marshall & Rossman, p. 71). People with whom I had prior professional relationships served as the initial interviewees. These participants then suggested other certified athletic trainers who positively contributed to my study.

The criteria for participants in this study was that they were currently employed as certified athletic trainers in the intercollegiate setting and that they had at least five years of experience practicing in this setting. It was important to include certified athletic trainers with at least five years of experience so that they would have had a greater chance of encountering student-athletes with mental health issues and thus would be able to contribute data. Participants were selected from all areas of the country, so no institutional or regional biases were present. There were ten males and eight female participants. Participants' experience working with student-athletes in a university setting ranged from five years to 36 years. Participants were identified with pseudonyms so actual names were not disclosed in the findings. Specific participant information can be found in Appendix D.

Eighteen experienced certified athletic trainers representing National Collegiate Athletic Association (NCAA) Division I, II, and III institutions participated in this study. Six participants with only NCAA Division I experience, one participant with only Division II experience, and seven participants with only Division III work experience made up the sample. In addition, three participants that had experience working at the Division I and Division III levels, and one participant had worked with both Division II and Division III student-athletes. To create an efficient sample I included participants from all the different NCAA levels as Miles and Huberman (1994**)** suggested. Purposely including contrasting cases such as these divisional differences led to enriched data. It is important to note that some participants represented more than one division and therefore, their interviews reflected details that covered both of those divisions. In some cases, specific incidents were not linked to specific divisions. In addition, some

participants represented more than one area of the country due to a change in jobs; an analysis of regional differences would not be exact because I examined collective experiences of the certified athletic trainers interviewed and not just what represented their current position and location. In addition, certified athletic trainers I interviewed did not represent the same sport athletes so limited analysis was produced per sport. Student-athletes represented a wide variety of sports from football and ice hockey to soccer and cross-country. In addition, certified athletic trainers I interviewed also worked with both male and female student-athletes. Some of the certified athletic trainers worked with exclusively male or female student-athletes while others covered both genders.

Data collection: instrument. In my study I used an interview guide as the research instrument for data collection. "The interview guide provides topics or subject areas within which the interviewer is free to explore, probe, and ask questions that will elucidate and illuminate that particular subject" (Patton, 1990, p. 283). Utilizing an interview guide was beneficial because outlines aid in the systematic collection of comprehensive data. A downfall of this approach was that important topics may have inadvertently been omitted (Patton). The interview guide was organized into two sections. The first section incorporated the demographic questions that were gathered from each participant. Demographics included gender, years of experience as an intercollegiate certified athletic trainer, and the NCAA Division represented. The second section of the interview guide consisted of the standardized open-ended interview questions that each participant was asked (See Appendix E).

Data collection: interview procedures. Pairing the interview guide with standardized open-ended interviews helped to negate the possibility of omitting key concepts because I asked each participant similar questions to gather data. Semi-structured interviews were chosen because they allowed me to have a series of questions to utilize in the interview, however, their order was not crucial, thus allowing for natural flow of conversation in the interview. Additional questions could be asked while others could be omitted dependent on the interview and the path it explored. According to Marshall and Rossman (2006), semi-structured interviews served as effective exploratory and explanatory methods of collecting data. Interview questions were developed to obtain as much data as possible in regard to certified athletic trainers' experiences working with student athletes with mental health issues. The open-ended format encouraged the certified athletic trainers to provide as much information as possible regarding each question. Given that the research questions focused on examining certified athletic trainers recognition and referral of mental health issues in intercollegiate student-athletes, qualitative semi-structured face-to-face and phone interviews were selected as the primary data collection method and field notes were kept as a secondary method.

When time and distance were taken into account, face to face and phone interviews together were found to be an effective and convenient method for data collection (Rohde, Lewinsohn & Seeley, 1997; Sturges & Hanrahan, 2004). Both forms of interviewing allowed me to interview information-rich individuals that were easily accessible despite time constraints and travel issues (Rohde et al.,; Sturges & Hanrahan).

Each interviewee was asked a series of questions that focused on the certified athletic trainers' recognition and referral of mental health issues with intercollegiate student athletes they have worked with. The open-ended nature of this portion of data collection required the interviewees to expand by drawing on individual past experiences and not on my point of view (Patton, 1990). An advantage to this was that each participant was asked many of the same questions, so responses were comparable (Patton). This was beneficial because questions specific to the research topic were addressed. This format of combining an interview guide with the standardized open-ended approach allowed some basic questions to be predetermined with precise wording. In addition, it allowed the interviewer more flexibility with probing questions (Patton). This format not only ensured that all questions were answered by all interviewees, it left room to explore unanticipated topics. This process was also effective when working in a limited amount of time (Patton). I chose to end my data collection after completing 18 interviews because at that point I felt I had reached a saturation point in my data when I was not hearing or observing any unique information in my interviews.

Interviews were conducted in the privacy of the certified athletic trainers' offices or by telephone in my private office. Face-to-face interviews at the interviewees' offices allowed them to be comfortable and ensured confidentiality of the interview. It was also more convenient and less time-consuming for them. This method was also within my comfort level, which Marshall and Rossman (2003) felt important for any study. Nine interviews were conducted face-to-face and nine were conducted over the phone. Interviews lasted between 50 minutes and 1 hour and 45 minutes and were audio-

recorded. I later typed all transcripts verbatim. Transcripts ranged from 5 pages to 25 pages and from 1885 words to 11,201 words.

Data collection: field notes. Serving as the research instrument (Denzin & Lincoln, 2000), I observed behaviors during face-to-face and phone interviews, such as body language and pauses, which helped to provide additional data beyond interview transcripts. Field notes were taken on all these observations during each interview. Field notes are notes taken by the researcher to help describe the settings, interactions and activities that took place during interviews (Patton, 1990). Participants' emotional responses as well as the impact each question appeared to have on the participant were documented. Patton stressed it was crucial to include the researcher's emotions and reactions to the experience, as well as participants' reactions because this could lead to additional data when exploring emerging themes. In this study, field notes consisted of observations I made throughout the interview process based on Marshall and Rossman's (2006, p.98) suggestion of keeping "detailed, nonjudgmental, concrete descriptions of what has been observed". Pauses, laughter or other observations during phone interviews and face-to-face interviews was also recorded along with observations of body language during the face-to-face interviews. Data from field notes was then typed and prepared for use in the data analysis.

Data Analysis

The process of data analysis for this study was modeled after three components recommended by Miles and Huberman's (1994): data reduction, data display, and drawing and verifying conclusions. This process was chosen because it embraced ongoing analysis and kept data organized at the same time. Ongoing analysis of data was

vital in qualitative design (Denzin & Lincoln, 2000) and due to the flexibility of qualitative analysis, parts of each of the three components were created and altered throughout the entire analysis.

Organization is arranged around data reduction, then data display and finally drawing conclusions. Data reduction is the process of selecting, simplifying and transforming information from transcripts and field notes and is continually evolving throughout the analysis. Data display is an organized format for information to be gathered and examined to find conclusions (Miles & Huberman, 1994). Once all information is analyzed conclusions for the study are made**.**

Data Reduction

After initial transcript reading, data was coded and served as the initial stage of data analysis. Miles and Huberman defined codes as "tags or labels used to assign units of meaning to the descriptive or inferential information compiled during a study" (Miles & Huberman, 1994, p. 56). Coding led to specific variables that may or may not have overlapped while examining specific questions and topics. After a review of interview data, consistent descriptions, themes and theories began to present themselves. Some of these areas pertained directly to the research questions; however, it was important to note that other areas of consistency arose as well. Any recurrent themes, events and concepts that presented themselves were analyzed for impact on the research at hand and how they merged into major themes.

For this particular study, the process of analysis was conducted as follows. After the initial transcript reading, analysis consisted of the researcher creating and defining codes, code structuring, code revising and code checking. Rather than creating a start list of

codes before interviews were performed, inductive coding was conducted after fieldwork was in. This inductive approach allowed coding to represent specific contextual data. This inductive coding was modeled after the Strauss (1987) technique in which transcripts were reviewed line by line within each paragraph. As this process progressed, specific topics emerged from each paragraph analyzed, thus codes were created and defined. Queries were then conducted for each code and then within these codes further queries were explored. Examples of initial codes were those topics that were appeared frequently and were labeled as free nodes. An example of a free node in my study would be depression and then that would eventually lead to a broader area such campus counseling or mental health issue which could then be categorized as a tree node. Each tree node then had other free nodes within them that coded specific concepts that branched off the tree nodes. Glaser and Strauss (1967) described this as incorporating more context-sensitive codes as opposed to using a start list in which codes were not as closely matched. Following this procedure of data reduction, the codes were structured. The coding list for this study is available in Appendix F.

Data Display

To produce coherent, organized data, structure of codes was critical (Miles & Huberman, 1994). This structuring was then put into various formats to serve as data displays. Putting the structured codes into a model assisted me in analyzing the data as it emerged. I found the use of data displays was effective to continually modify and evaluate the structure as the data analysis progressed. As analysis continued, it became apparent that some codes needed to be changed to provide more data for clinical and curriculum implications. Revising codes helped to describe and label data as precisely as

possible which made the analysis more effective. Lastly code checking served as an operational definition check. NVivo 8 qualitative analysis software was used throughout the data analysis and assisted with code checking (QSR, 2007). Qualitative software takes unstructured information such as field notes and transcripts instead of quantitative numbers to arrive at conclusions. This software eliminated the human error of coding, and ensured that the same response was classified into the proper category each time. The use of this software program eliminated the need for multiple coders and thus eliminated the possibility of multi-coder reliability issues. The NVivo program that I used for my study employed the use of a powerful search engine for each query. Each query then effectively coded information from all sources, thus exploring all transcripts very rapidly and efficiently. I used this feature to re-run queries with new data and thus any new information could be tracked and the evolution of results could be seen (QSR, 2007). Due to the sophisticated query capabilities of the NVivo software, subtle trends and patterns in data were revealed (QSR, 2007).

Trustworthiness

Establishing trustworthiness assures that the findings of a study are "worth paying attention to" (Lincoln & Guba, 1985, p. 398). Trustworthiness in my study was established in terms of credibility, transferability, dependability and confirmability. These terms replaced internal and external validity, reliability and objectivity; terms typically used as positivist criteria (Lincoln & Guba). According to Creswell (2003), multiple strategies of validity have helped ensure that any bias was diminished and accuracy was established.

Credibility for this study was established through prolonged engagement, persistent observation, member-checking peer debriefing and. Prolonged engagement is defined as the concept of spending a satisfactory amount of time within the setting to understand the culture and to build trust with participants. Utilizing a pilot study established prolonged engagement. By spending time in the field, exploring possible dynamics within the culture and the subject area, I ensured the study's credibility. Credibility was also established through persistent observation. With this technique, I identified the relevant information the study warranted and focused on those specific areas. Lincoln and Guba (1985) reported that "if prolonged engagement provides scope, persistent observation provides depth" (p. 304).

Member checks also established credibility. Member checking took place when I e-mailed participants their transcripts to rule out any misinformation. In this study, interviewees were also given the choice to hear playbacks of their interview recordings. Participants saw and provided feedback regarding the descriptions and interpretations of their contributions. Creswell (2003) said it was crucial that those who provided the data review it to ensure that they were accurately represented. Peer debriefing, a process in which a neutral source reviewed the research study for aspects the primary researcher may have missed or omitted was another technique I employed to ensure the credibility of this study (Creswell).Through this process, credibility was established because my personal biases were investigated and the basis for my interpretations clarified (Lincon & Guba, 1985; Miles & Huberman, 1994). To provide a valuable assessment of the research, the debriefer was someone knowledgeable with the topic as well as with the methodology (Miles & Huberman). The peer debriefer for my study was another

certified athletic trainer who had an understanding of the research topic, as well as the qualitative nature of this study. My peer debriefer reviewed my research at various times to provide feedback regarding various aspects of my work.

Another way that I established trustworthiness in my study was through transferability. The concept of transferability was accomplished when I proved that my study's findings were useful to others investigating similar questions. Thick description was used in this study and served as an element of transferability. Rich, thick description was presented through detailed depictions of the findings. Scholars found that by doing this, readers developed a better understanding of the data and also identified with findings easier (Creswell, 2003; Miles & Huberman, 1994). According to Lincoln and Guba, the naturalist or interpretivist provided "only the thick description necessary to enable someone interested in making a transfer to reach a conclusion about whether transfer can be contemplated as a possibility" (Lincoln & Guba, 1985, p, 316). Findings from my study can be used for continuing research in the areas of athletic training curriculum development, as well for exploring practical implementation of mental health protocols in the athletic training setting. In addition it can be used by certified athletic trainers researching the importance of communication between certified athletic trainers and other health care professionals, team physicians and counseling resources. It is important for those not involved in the athletic training profession to understand the role certified athletic trainers play in student-athletes' health care. In addition, information from my study can be transferred into further research examining specific sports, regional differences and NCAA divisional differences specific to the recognition and referral of mental health issues in intercollegiate student-athletes.

The last two concepts of trustworthiness discussed are dependability and confirmability. Marshall and Rossman (2006) defined dependability as the attempt by the researcher to "account for changing conditions in the phenomenon chosen for study and changes in the design created by increasingly refined understanding of the setting" (p.203). Similarly, Lincoln and Guba (1985) defined confirmability as the concept of whether or not a study's findings have been confirmed by or clarified to others. An audit trail was utilized in this study to serve as the dependability and confirmability aspects of trustworthiness. Halpern (1983), emphasized the audit trail must consist of raw data, data reduction and analysis, data reconstruction and synthesis, process notes, materials relating to intentions and dispositions, and instrument development information. For my study, raw data consisted of audio tapes, interview transcripts and field notes. Data reduction and analysis included interview transcripts, write-ups of field notes and codes. Data reconstruction and synthesis was the modification of coding and the structuring of themes and relationships found in the study, as well as a final report. Process notes consisted of procedures, rationale and trustworthiness notes. The research proposal served as a part of the materials relating to intentions and dispositions. The pilot study format and questions served as the instrument development information. Following these audit trail links ensured steps were followed to determine if findings were grounded in the data (Lincoln & Guba, 1985).

Chapter Three

Findings and Discussion

In this chapter, an analysis of the findings is presented along with a discussion of the results in relation to the literature. Two major themes were identified: 1) certified athletic trainers' recognition and referral of mental health issues; and 2) the background preparation of certified athletic trainers in the recognition and referral of mental health issues in intercollegiate student-athletes. Several concepts were also generated that have either a positive or negative impact on the above mentioned two main themes. These concepts included: performance declines, comorbidity, Division I resources, cost and convenience of location, confidentiality, lack of confidence in recognition and referral, coaches' influence in recognition and referral, Division III resources, location of campus counseling and emotional impact. Next I will detail some of the sport specific findings which emerged. Although this study did not focus on specific sports, I will detail the trends that did emerge as a result of my interviews. For example, some mental health conditions were mentioned more often in interviews pertaining to specific sports. Following this, I will detail specific student-athletes' mental health issues encountered, recognized and referred by certified athletic trainers. Next I will detail aspects of certified athletic trainers' educational and experiential backgrounds in the area of recognition and referral of student-athletes' mental health issues, followed by curriculum and practical implications.

Positive Aspects of Recognition and Referral

As I analyzed my data, certain concepts surfaced as participants discussed their thoughts on mental health issues in student-athletes. Certain concepts such as athletic performance declines, coaches' influence, personal experiences, comorbidity, Division I resources, the cost and location of campus counseling centers, and confidentiality contributed to the successful recognition and referral of mental health issues in student-athletes. I considered all of these concepts positive because they allowed certified athletic trainers to observe signs and symptoms of student-athletes in distress earlier and provided an easier path for intervention. Next, each of these concepts will be discussed in detail.

Performance declines. One positive concept of the recognition and referral of mental health issues in student-athletes was the certified athletic trainers' ability to notice athletic performance declines in their student-athletes. Performance declines are defined as drops in athletic performance which are unusual for student-athletes' average performance capabilities. Certified athletic trainers I interviewed noted that the concept of performance declines is positive because it is often the first area that is noticed in student-athletes. This is because statistics of performance are constantly being recorded and monitored. These declines were recognized by either the certified athletic trainers or by coaches.

Performance declines that were observed by certified athletic trainers or noticed by coaches initiated conversations regarding what exactly was causing the performance issues. These conversations occurred between certified athletic trainers and coaches as well as between certified athletic trainers and student-athletes or between all three of

these groups. The conversations then led to a better understanding of what issues may be contributing to student-athletes' performance declines. Conversations were either held formally in offices or informally in discussions after practice or games. Certified athletic trainers I interviewed noted that these conversations often provided missing information regarding student-athletes' outside stressors, sleep or nutrition concerns. The following quotes highlight the effectiveness of this approach. One certified athletic trainer I interviewed stated, "We had noticed her performance dropped off in comparison to even earlier in the season and that was an issue that we hit home on and that did help her significantly" (M/DII/III/13). Another certified athletic trainer mentioned:

Typically we'd either bring up the fact that we were concerned about nutritional habits performance deficits that might have been taking place. Just to get some more information on why that (performance issues) might be occurring, and hopefully asking the right questions that the athlete might share with us. In some cases they were unwilling so, it was difficult to dig deeper. (M/DIII/12)

Another certified athletic trainer mentioned specifically discussing performance declines with those experiencing disordered eating patterns and stated:

Yeah, in fact with all of these specifically I do talk about performance and how if you're body's not getting fueled right your body's not going to perform the way you want it to perform and make you more prone to injury and other things. (M/DIII/12)

Similarly, another certified athletic trainer said he would talk to an athlete and say, "the coaches are telling me you aren't doing it (performance) and I see that it's a problem then the three of us are going to be sitting down right now. Because they all sign off ahead of time saying we can talk to the coaches" (M/DIII/18). Coaches' input in regard

to performance also served as a positive contributor in the recognition and referral of student-athletes' mental health issues. One certified athletic trainer I interview noted that "you have to discover whether the coach is part of the problem of if they're going to be part of the solution" (M-DI/DIII-1). The above quotes regarding athletic performance declines illustrate how having good communication between coaches, student-athletes, and certified athletic trainers can assist in the recognition of mental health issues in student-athletes.

In addition to being a positive impact on certified athletic trainers' recognition of mental health issues in student-athletes, addressing athletic performance declines also positively impacted certified athletic trainers' methods of referral. Certified athletic trainers felt that they were more effective if they approached student-athletes' mental health issues and the need for referral through athletic performance declines. Because student-athletes are working to maintain and improve athletic performance daily, when declines occur they often want to discover the reason and to learn what they can do to improve their performance once again. Educating student-athletes through communication regarding how their issues were affecting their performance was received more favorably by student-athletes than other approaches such as accusing them of having a specific mental health issue. Explaining that seeking help could have a positive effect on their athletic performance made the initial contact with a mental health professional less threatening. Student-athletes who may be intimidated about seeking help for a mental health issues may be more comfortable seeking help to address athletic performance declines. One certified athletic trainer described trying to convince a student-athlete to seek help from a mental health professional by saying "we try to tie it

back into the sport and just reassure them that these people are there to help them with another aspect of their sport performance" (F-DI-4).

Certified athletic trainers I interviewed felt that informing student-athletes about their concern regarding athletic performance declines was beneficial because student-athletes were then more receptive to seeking help. This had a positive impact in the recognition and referral of mental health issues because if performance had remained the same or improved it is possible that mental health conditions would have gone unrecognized. Some students may have had underlying mental health issues such as anxiety, depression or eating disorders that they did not want to bring out in the open for discussion, however, performance declines appeared and therefore the reasons for the performance declines were explored and treatment was received.

Personal experiences. Another area that positively contributed to the recognition and referral of mental health issues in student-athletes was the certified athletic trainers' personal experiences. Personal experiences related to participants either experiences with their own mental health issues and experiences with close friends and/or family members who had suffered from some type of mental health issue(s). The participants felt this positively impacted their ability to recognize mental health issues in the student-athletes they worked with. Certified athletic trainers had previously observed signs and symptoms such as withdrawal, irritability, anxiety and other behaviors which led them to observe these signs and symptoms in their student-athletes and explore the possibility of mental health issues. If they had no previous experiences with mental health issues they may have been more inclined to let these signs and symptoms go unnoticed.

For example, eating disorders in friends and depression and substance abuse in family members were all mentioned as mental health issues that certified athletic trainers had personal experience with. A participant mentioned that "having friends have eating disorders and kind of understanding a different perspective" (F-DII-6) helped her to recognize and understand this same condition in her student-athletes. Another certified athletic trainer felt that he recognized the signs and symptoms of depression better due to a family members' illness, however he did not understand how to "fix it" (M-DI-17). Only one certified athletic trainer disclosed that he or she had suffered from some mental health issues of his or her own.

Participants who had these personal experiences with mental health issues were very aware that finding the right mental health professionals for referral of these student-athletes was crucial. The certified athletic trainers that had personal experiences with family and friends' mental health issues also seemed to be more aware of the need to find a mental health professional that was the right fit for the student-athlete and mentioned that more than one mental health professional may need to be involved. They recognized the need for patience in making proper referrals for the student-athletes, and acknowledged the importance of finding the right balance of medications for student-athletes' health.

Certified athletic trainers' personal experiences led them to be more effective in the recognition and referral of mental health issues in student-athletes. They also seemed less hesitant to hold discussions with student-athletes regarding their concerns regarding signs and symptoms of mental health issues student-athletes were displaying. In addition, participants appeared relaxed or more comfortable in discussing referral possibilities with

student-athletes why? Due to prior experiences, mental health issues did not carry the stigma or fear of the unknown which could create a level of intimidation in some certified athletic trainers. Certified athletic trainers who did not mention any personal experiences with their own or friends and families' mental health issues also were very capable of handling mental health issues in student-athletes. Some, however, seemed more comfortable having someone else initiate conversations regarding student-athletes' mental health. Further research could be conducted to determine if personal experiences with mental health issues led to more effective management of student-athletes' mental health issues.

Comorbidity. Comorbid conditions also facilitated recognition and referral in student-athlete mental health issues. Comorbidity refers to two or more illnesses occurring simultaneously in a student-athlete, such as alcohol dependence and depression. These occurrences may be causal relationships between illnesses or underlying vulnerabilities to both disorders (Roberts & Yeager, 2004). For example, participants reported seeing anxiety with depression, as well as eating disorders with depression, anxiety and obsessive compulsive disorder, depression with suicide, anxiety with suicide, and anorexia with suicide threats. In addition, ADHD was often mentioned with substance abuse and depression in the same student-athletes as well. It is important for certified athletic trainers to realize that many mental health conditions may need to be addressed within just one student-athlete. The recognition of these conditions was positive because if initial mental health conditions went undetected; other co-existing conditions would have gone undetected and therefore untreated. In addition, if student-

athletes were referred to mental health professionals regarding single mental health condition, other issues could therefore be diagnosed and treated as necessary.

Division I resources. Although similar types of mental health issues were observed by certified athletic trainers interviewed from each NCAA division, access to mental health resources available for student-athletes differed. Through my interviews with certified athletic trainers representing all NCAA divisions, I discovered that the resources available at the Division I level were more accessible than the other divisions. Availability of resources included daily in-house access to team physicians who could refer to a local mental health professional or neuropsychologist very quickly, often times the same day. The variety and ease of accessibility of mental health professionals at the Division I institutions in my study seemed to provide an easier route for referral for student-athletes in many cases than with the smaller division schools. Division I programs had access to team physicians in the athletic training room throughout each day. This daily in-house accessibility led to more immediate consultations and referrals for student-athletes in need. All Division I institutions had daily access to team physicians, and some Division I institutions had regular access to neuropsychologists experienced in working with student-athletes. In these cases, the certified athletic trainers felt that these professionals were an excellent resource available to them. One certified athletic trainer referred to this as being in a "comfort zone" (M-DIII-DI) when he was working with student-athletes' mental health issues. The Division II institutions represented in my interviews did not have as much access to neuropsychologists than Division I schools, but Division II certified athletic trainers interviewed felt that they had excellent mental health resources in place for student-athletes' referrals. Further research

could be done to determine if Division I institutions actually were able to recognize and diagnose mental health issues earlier in student-athletes but it was not determined in my study due to confidentiality of medical records that were not explored.

It is possible that due to the availability of physicians and mental health professionals at the Division I level, more mental health issues may have been recognized at this level. It is also possible that mental health issues may have been recognized sooner than at DII or DIII institutions**.** Although the positive aspects of Division I resources was not apparent for recognition of mental health issues in student-athletes through my research, it was apparent that referral of student-athletes was impacted positively by the availability of mental health professionals because referrals were more expedient.

Some Division I institutions also had excellent protocols in-place for the mental health care of their student-athletes. Having proper protocols in place led to more efficient and effective mental health referrals for student-athletes as well. In addition, the certified athletic trainers interviewed from institutions with established mental health protocols felt very comfortable in knowing what to do should a mental health referral be necessary. A mental health protocol in place was deemed positive for two main reasons. Implementing protocols in place prior to encountering student-athletes with mental health issues can result in more efficient and effective care. By having contact information for mental health professionals readily available, time and confusion as to who to call is eliminated. Knowing who to contact, in addition to who is going to place the calls and who else will be involved in the ring of communication surrounding the student-athletes' mental health care will allow for greater efficiency in protocol implementation. For example, a number of individuals may be involved including the head certified athletic

trainer, the team certified athletic trainer, the team physician, the parents or the athletic director. Each institution represented in my study involved a variety of these individuals so it is important to have a protocol planned out so only necessary individuals are included in the loop of communication. This not only allows for effective care for student-athletes, it also maintains student-athlete confidentiality.

Instituting mental health protocols decreases the emotional and physical toll that certified athletic trainers can experience. When a crisis arises and no protocol is in place, it can be very time consuming and stressful to find appropriate mental health professionals to provide quality care in a reasonable time frame. It is important to utilize mental health professionals that are aware of the special needs of student-athletes, thus having contact information and relationships already established with these practitioners can ease stress certified athletic trainers are experiencing. If mental health protocols are not in place or knowledge of available resources is limited, emergency rooms are often utilized. Unfortunately, many emergency room staffs may not understand the role certified athletic trainers play in student-athletes' healthcare, therefore communication may be limited. This limitation in communication would be avoided if certified athletic trainers developed relationships with mental health professionals prior to a crisis so that both sides understood the role the other plays in student-athletes' health care.

Cost and convenience of location. Due to low cost and convenience, a frequent resource for referral that had a positive impact on student-athletes was the use of campus mental health counseling services. Campus mental health counseling services are available on most college campuses today. Students access them due to their convenience of locations which are typically centrally located on campuses and easy to

walk to. In addition, counseling services are free and confidential which make them attractive to college students. In some cases, students may not want parents to know that they are seeking counseling so confidentially seeing a campus mental health professional at a facility that does not need insurance information is beneficial. Many college students are covered by their parents' health insurance so if they did seek help at an off-campus mental health facility parents would learn that they are seeking help simply through billing issues. Specific to student-athletes, many certified athletic trainers I interviewed often utilized campus mental health counseling services.

One athletic trainer I interviewed stated that "it's free, it's available and at our campus here they do a good job" (M/DI/17). Certified athletic trainers I interviewed indicated that student-athletes could access campus mental health counseling easily and they typically were familiar with the location of the facility. In some cases, student-athletes would walk to the center on their own, and in other more urgent situations, certified athletic trainers could walk student-athletes to the campus mental health counseling facilities to receive assistance.

Participants mentioned that if campus counseling felt student-athletes needed further referral to mental health professionals in varying specializations they would facilitate those needs. For example, one campus had a psychiatrist that worked at campus mental health counseling services twice a week that helped facilitate further referral for student-athletes. In such cases the responsibility of making further referrals to mental health professionals was managed by experts with a broader referral network available to them. By doing this the psychiatrist was reducing the physical and emotional toll certified athletic trainers were experiencing by shifting the responsibility of finding further referral

resources.

Campus counseling centers were utilized by certified athletic trainers at all divisions. I interpreted this as having a positive impact in referral due to the cost effectiveness and the convenience in location of campus mental health counseling centers. Since this is a free service to all university students, the certified athletic trainers who felt their campus counseling centers were effective, made use of them as a part of their student-athletes' health care.

Confidentiality. Another aspect of recognition and referral for student-athletes' mental health issues was the issue of confidentiality. I feel this is positive in that the student-athletes' relationship with certified athletic trainers is built on trust and confidentiality due to the role and expectations of certified athletic trainers as health care providers. Student-athletes assume that certified athletic trainers are ethical and therefore are following the Health Insurance Privacy and Accountability Act (HIPAA) guidelines for documentation and communication regarding their health care. Certified athletic trainers also assume that mental health professionals they refer student-athletes to are also following a code of ethics to ensure that confidentiality is maintained throughout a treatment process. Any healthcare professional involved in the well-being of student-athletes' is ideally following these ethical standards. The confidentiality requirement in student-athletes' health care is that, unless proper documentation is in place, no communication can take place between the mental health professionals and certified athletic trainers once treatment has begun. In some instances, this was seen as extremely positive by certified athletic trainers I interviewed in that they were happy they had transferred care to someone who was more qualified to meet the student-athletes' health

care needs. For example, student-athletes who were required by certified athletic trainers to seek help regarding mental health issues such as eating disorders or substance abuse could at least be notified if student-athletes were attending and participating in required sessions with mental health professionals. In many cases, student-athletes were required to make the initial contact with the mental health professional recommended by team physicians or certified athletic trainers. Once this contact was made and an appointment was set up, usually no communication was provided regarding the student-athletes' status. This is a very positive situation in maintaining the student-athletes' privacy and in most cases, certified athletic trainers were satisfied that the student-athletes were receiving the proper medical care.

Coaches' influence. Another positive aspect in the area of recognition and referral of student-athletes' mental health issues was the influence of coaches. On many occasions, coaches noticed signs and symptoms of mental health issues in their student-athletes and then requested certified athletic trainers to intervene. In these situations, the coaches noticed behavioral changes in their student-athletes' before certified athletic trainers. Thus, the coaches' were able to provide critical information so that certified athletic trainers could follow-up and make mental health referrals when necessary. Through my interviews I found this occurred in situations involving student-athletes with depression, anxiety, self-injury, suicidal ideation and Attention Deficit Hyperactivity Disorder. One certified athletic trainer I interviewed stated "you have to discover whether the coach is part of the problem or if they're going to be part of the solution" (M/DI/DIII/1). Very often coaches played a significant role in student-athletes receiving the proper care they needed.

Negative Aspects of Recognition and eferral

On the opposite spectrum, there were concepts that led me to interpret that data gathered was contributing negatively to the recognition and referral of mental health issues. Concepts which led to a negative or poorer chance for recognition and referral of mental health issues by certified athletic trainers I interviewed were lack of confidence in recognizing these conditions, coaching influences, Division III resources, cost and convenience of location, and confidentiality. To illustrate these negative concepts I will explore emergent data from my interviews which I interpreted as contributing negatively to the area of recognition and referral of mental health issues in intercollegiate student-athletes.

Lack of confidence in recognition and referral. One interesting concept that I interpreted as negative in the area of recognition and referral was the lack of confidence some certified athletic trainers had in recognizing mental health issues in the student-athletes they worked with. Some certified athletic trainers I interviewed sounded uncomfortable if they did not encounter many student-athletes with mental health issues. It was as though they felt that key signs of the illnesses may have been missed. One certified athletic trainer stated that he had not seen many mental health issues in his student-athletes and said “I don’t know if that’s uh, my ineptitude at nailing it or I’m not sure” (M-DI-18). Another mentioned that he preferred having the coach handle the situation if at all possible. He felt uncomfortable dealing with the mental health issues in his student-athletes and so was at ease letting others deal with it. This lack of confidence ties into the importance of self-efficacy and the self-confidence that is needed to perform successfully. If certified athletic trainers are not confident in their recognition and

referral skills they can easily miss key signs and symptoms student-athletes' may be displaying and therefore delay proper care which can be extremely detrimental. This lack of confidence may also be attributed to the lack of education for certified athletic trainers in the realm of psychosocial intervention and referral.

Coaches' influence on recognition and referral. While in many cases coaches' influence can be positive in the recognition and referral of mental health issues in student-athletes, coaches can also have a negative influence on student-athletes. In some situations, certified athletic trainers I interviewed felt that student-athletes revealed that coaches' behaviors were the primary cause of the mental health issues. I interpreted this as negative when looking at the major theme of recognition and referral due to the fact that mental health conditions may not have existed had it not been for the coaches' influence. The mental health conditions that certified athletic trainers felt coaches contributed to were anxiety disorders and eating disorders. In several situations coaches' comments directly led student-athletes into eating disorder patterns and in other cases, constant pressure from coaches led to anxiety that needed medical attention. For example, coaches who were constantly nagging student-athletes to weigh in or to meet unhealthy weight expectations had a negative impact on student-athletes who were battling body image problems and eating disorders. One certified athletic trainer stated his student-athlete admitted "starving himself" to drop weight to please a coach. (M-DIII-12) This baseball student-athlete battled anorexia the rest of the season due to the negative influence of his coach.

Other student-athletes developed severe anxiety disorders as a direct result of coaches' ongoing pressure. One certified athletic trainer shared an unfortunate reaction

from a coach working with a student-athlete who was seeing the team sport psychologist because the coach was "on him". "The kid went in the game and made a mistake and the coach said out loud, loud enough for everyone to hear "I see seeing that shrink is really helping your game!" He went on to say that the coach "wasn't aware that there was a person inside of that player" and that "whatever confidence, whatever confidentiality was there, the coach just trashed it" (M-DI/DIII-1). Obviously, this is an extremely negative reaction but is proves that education for coaches working with student-athletes with mental health issues is also necessary. This situation had a negative impact on the recognition and referral of mental health issues because the student-athlete seeking help from a mental health professional was ridiculed in front of teammates. This lack of understanding could have prevented any other team members from ever seeking help in the future for fear of being humiliated by the coach. On occasion, this can be more difficult for certified athletic trainers to see due to student-athletes trying to make a good impression. Student-athletes may not tell certified athletic trainers that the coach is the issue because they do not want to seem weak or they do not want people to think they are causing problems. Therefore, they hide the fact that the coaches are actually creating the mental health issue. In some cases, however, student-athletes opened up to the certified athletic trainers regarding the coaches' behavior and therefore, the certified athletic trainers could intervene on the student-athletes' behalf.

Division III resources. Another concept that I perceived as negative in the area of referral of mental health issues in student-athletes was the lack of available resources at the Division III level. Certified athletic trainers at Division III schools typically had regular access to team physicians one evening a week and at events. Team physicians for

the Division III schools were accessible at other times as well, but did not have daily hours scheduled in athletic training rooms. Although good care was still provided to student-athletes at the Division III level it took more organization to get referrals in place. For example, a student-athlete in a non-emergency situation would wait to see a team physician on the day the physician was in the athletic training room. The physician would then typically set up a referral at that point. In some cases, referrals were made quickly while in other cases, depending on availability of resources, referrals were delayed. These delays led to student-athletes missing practices and games unnecessarily and thus, suffered more consequences from this delay in treatment.

Another area of concern at this level was that team physicians were available that had experience working with student-athletes but once they made a referral for student-athletes it was very possible that the mental health professionals used for referrals had little understanding of the demands and challenges unique to student-athletes. For example, they may not understand the time demands or pressure from coaches faced by student-athletes. They may also possess little understanding of the academic and eligibility requirements that place stress on student-athletes.

Location of campus counseling. Although for the most part the location of campus counseling was addressed as a positive aspect of referral, in some cases it negatively impacted referral. Due to the location, some student-athletes chose to not seek assistance on campus. Some student-athletes preferred more privacy and preferred seeking mental health professionals off-campus. One certified athletic trainer I interviewed stated: “A lot of the time the kids won’t want to go on campus because if they’re seen going into the

mental health clinic, they don't want that to happen or whatever so we have both" (F/DI/ 8).

For example, some student-athletes did not want their peers to see them walking into a campus mental health facility. They did not want to have others wondering why they were seeking help and for what reason. In some cases, such as ADHD, student-athletes were not bothered by seeking help on campus. However, in situations such as eating disorders and depression student-athletes often preferred off-campus assistance. This was dependent on student-athletes' preference.

Confidentiality. Although there were many positive aspects in the area of confidentiality regarding recognition and referral there was also a negative side to the concept of confidentiality. In cases, where there was no communication certified athletic trainers were frustrated because they were left out of some of the information regarding the student-athletes' health care. Student-athletes who are willing can sign release of medical records forms so that all those involved in the health care of student-athletes can be freely communicated with in regard to specific practice or game expectations. If student-athletes did not sign a form such as this no communication was expected from the mental health professionals involved.

Emotional impact. Reviewing my raw data I interpreted that many athletic trainers I interviewed were affected by the emotional impact of dealing with mental health issues in the student-athletes they worked with. I feel that this was a negative aspect of the recognition and referral of mental health issues by certified athletic trainers. Working with mental health issues in student-athletes clearly had an emotional impact on the certified athletic trainers I interviewed. Certified athletic trainers that had been involved

with student-athletes' mental health difficulties used words such as "frustrated" and "scared" when describing their own feelings. Another referred to a situation as "it's so sad" (F-DI-8) and yet another described one occurrence of caring for a student-athlete struggling with a mental health issue as "It was one of those long nights." (M-DIII-17) Yet another said "He's very exhausting" (F-DI/DIII- 3) about a student-athlete she worked with. One certified athletic trainer described her experience with a suicidal student-athlete this way:

> Oh, terrifying, I mean you hang up the phone at 2 in the morning and I literally laid back and laid awake for the next hour thinking? Have I just condemned this girl to die and it's my fault? You know should I have just gone over there and sat with her so I knew she'd be safe? Like, should I call her back and make sure she's OK? You know all of those things entered my head. And I can tell you that like it was last night because it was really scary. (F-DI-4)

According to Lemberger (2008, p. 77), "ensuring and sustaining appropriate personal and professional boundaries are critical" to the certified athletic trainer's long-term success in the field. One school recommended their certified athletic trainers set boundaries to protect them from getting too emotionally involved in situations. Neuropsychologists met with certified athletic trainers to educate them on the healthy boundaries they need to have when working with student-athletes with mental health issues. These professionals emphasized that if healthy boundaries were not set it could take an emotional toll on the certified athletic trainers involved. One certified athletic trainer had a particularly healthy reaction to a student-athlete who was a cutter. This individual had referred the student-athlete to a mental health professional and had also

established solid boundaries for herself. She stated "I can't get a call at three in the morning saying I cut myself what do you want me to do?" (F-DIII-14) It is evident that this certified athletic trainer handled the situation with compassion, yet also considered her own emotional well-being.

Theme: Recognition and Referral

Subtheme	Subtheme
Positive Concepts	**Negative Concepts**
Performance declines	Lack of confidence
Personal experiences	Coaches' influence
Comorbidity	Division III resources
Division I resources	Location of campus counseling
Cost and convenience of location	Confidentiality
Confidentiality	Emotional impact
Coaches' influence	

Figure 1: Theme and subthemes of certified athletic trainers' recognition and referral of mental health issues in intercollegiate athletes.

Emergent Sport Specifics. Some mental health issues were discussed more for certain sports than others however my study did not specifically examine mental health trends per sport. The certified athletic trainers I interviewed worked with a wide variety of athletic teams so mental health conditions were seen in a number of different sports. For example, certified athletic trainers saw ADHD in several football players but this condition was not limited to this sport. In addition, eating disorders was linked to many cross country student-athletes but was also mentioned in wrestlers, rowers, volleyball

players and baseball players. My study's findings could be a basis for examining specific trends in mental health conditions per sport. This is an important area of transferability for future research.

As this chapter progresses, I first explore the mental health conditions that certified athletic trainers are seeing in their student-athletes. These conditions include; eating disorders (anorexia and bulimia), ADHD, depression, anxiety, self-injury, substance abuse, PTSD, and other mood disorders. Then I discuss both the recognition and referral processes certified athletic trainers are using with their student-athletes. Following this, I review the positive and negative aspects of the educational backgrounds of certified athletic trainers regarding mental health issues.

Mental Health Conditions Encountered, Recognized and Referred

Next, I will explain what mental health conditions certified athletic trainers saw in their student-athletes, including the signs and symptoms they recognized. Referral processes certified athletic trainers utilized in the health care of student-athletes will also be detailed.

Disordered eating. Disordered eating was one of the mental health issues that certified athletic trainers dealt with at some point in their career. Participants mentioned that eating disorders were the first type of mental health issue they thought of when preparing for their interviews with me, primarily because they had encountered these multiple times. For example, they responded with comments such as "eating disorders come to mind most" (F-DIII-14) and "we've had quite a few eating disorders." (M-DIII-12) I asked, "How many cases of anorexia do you think you've seen?" One participant responded with "oh gosh, many unfortunately." (F-DI-16) Through these comments it is

clear that eating disorders are regularly seen by those in the athletic training profession. Vaughn, King and Cottrell (2004) stated that 91% of certified athletic trainers working with female athletes had encountered eating disorders. UnfortunatelyVaughn et al. went on to report that many certified athletic trainers lacked confidence in identifying female student-athletes with this condition. However, within my study, no certified athletic trainers mentioned a lack of confidence in recognizing symptoms of eating disorders.

Certified athletic trainers witnessed many common signs and symptoms of anorexia and bulimia. Some of the certified athletic trainers I interviewed recognized the eating disorders through the physical appearance of student-athletes. One participant told me about a student- athlete he worked with. He stated it was a "dramatic weight loss, she was like 135 and went down to 105 in a couple months." (M-DIII-12) The same participant also recognized physical signs in a different student-athlete by stating, "I mean just from appearance sake, that individual is very thin and looks like a stick you know?" (M-DIII-12) Others also mentioned "severe weight loss" (M-DII/DIII-13) or described student-athletes by saying "their weight was down." (F-DIII-14)

Another way certified athletic trainers recognized eating disorders in their student-athletes was through behavioral tendencies. For example, some certified athletic trainers mentioned student-athletes exercising a great deal above and beyond what would typically be expected. One participant described this behavior by stating:

> This individual not only doesn't eat but they work out constantly. You know they're over at the fitness center and we just got done with a three hour practice and they go over to the fitness center and they get on the treadmill or they get on the elliptical for an hour or two. (M-DIII-12)

Another participant also witnessed “excessive exercise-- a lot of the classic signs and symptoms you would see in a textbook.” (M-DII/III-13) Yet another certified athletic trainer mentioned a student-athlete’s tendency to aim toward perfectionism saying the student had, “the type of personality that they were a straight A student, very particular. You know every day was you know cause that’s how they are.” (F-DIII-14)

Injuries also led some certified athletic trainers to recognize that student-athletes were suffering from eating disorders. One participant pursued the possibility of eating disorders in a student- athlete due to excessive injury. This participant noted in our interview that her student-athlete “keeps getting these stress fractures.” (F-DI/DIII-3) According to experts, “many orthopedic surgeons attribute this to a condition referred to as ‘the female athlete triad’: eating disorders (bulimia or anorexia), amenorrhea (infrequent menstrual cycle), and osteoporosis. As a female's bone mass decreases, her chances of getting a stress fracture increase” (American Academy of Orthopaedic Surgeons, 2007, para.5).

One participant’s institution had an interesting approach to help certified athletic trainers recognize eating disorders. Body mass indexes (BMI) were calculated on each student-athlete. Anyone with a BMI under 18 had to meet with the team physician regarding potential health risks associated with their number. According to Psych Central (2009) anyone, male or female, with a BMI under 18.5 could be considered underweight.

Although the number of female student-athletes with eating disorders is still greater than males it is important for certified athletic trainers to recognize the possibility of eating disorders in their male student-athletes as well. The certified athletic trainers I

interviewed also recognized eating disorders in their male student-athletes. In my study, male student-athletes with eating disorders were involved in baseball, cross country and wrestling. Fatigue, weight loss and performance issues were the prevalent signs. One certified athletic trainer stated his student-athlete admitted "starving himself" to drop weight to please a coach. (M-DIII-12)

Pressure from coaches in regard to student-athletes' weights often played a role in the unhealthy weight loss of both male and female student-athletes. One certified athletic trainer mentioned that a female student-athlete felt "like the coaches were putting a lot of undue pressure on her because of her weight." (F-DI-8) Another certified athletic trainer said "we also had a couple of girls whose coach would pinch their butt and tell them they had to lose weight." (M-DII/III-15) In several situations, the certified athletic trainers I interviewed intervened and addressed the issue with coaches and in some cases, administrators. Another area of pressure that surfaced was with student-athletes whose parents had or were suffering from eating disorders themselves. These student-athletes were more resistant to referral because of both the pressure parents placed on them to stay thin and the lack of family support.

Overall certified athletic trainers referred student-athletes with eating disorders to a wide range of resources including nutritionists, campus counseling centers, off-campus mental health counseling centers, team physicians, university health services, sport psychologists and neuropsychologists. Typically this would begin with conversation between the student-athlete and the certified athletic trainer, who then would refer the student-athlete to the team physician, nutritionist or other available counselor.

Attention deficit and hyperactivity disorder. Another condition most certified athletic trainers encountered was ADHD. Individuals with ADHD tend to gravitate toward physical activity and are often more successful in athletics compared to academics (Broshek & Freeman, 2005). Over half of the certified athletic trainers I interviewed worked with student-athletes with ADHD. Several of those indicated that they had many student-athletes receiving care for this condition. A few participants said they did not have to deal with it very much and one said that there was probably a lot of it that just had not been diagnosed. Participants I interviewed recognized many classic symptoms, including difficulty focusing, short attention spans, and academic difficulties. Several participants I interviewed mentioned student-athletes' ADHD behaviors were more noticeable when student-athletes were not taking their medications versus when they were not. One participant noted "with anything we were doing she was always very antsy and very jumpy and you can definitely tell when she's taking her medicine and when she's not. When she's not taking her medication she is very flighty and out of control so it's pretty noticeable when she's not." (M-DI-10) Another participant noted a similar situation by describing the student-athletes' difficulty in being able to:

> Stay focused, on task. I had a girl that ended up having three ACL surgeries while she was here and you know you could tell when she didn't take her medication in the morning because in the afternoon she was all over the place, you know and it was like let's get this done and quit talking about things and she was very all over the place and she had it bad, I don't know if you say she had it bad, but she had it bad enough that she need to be medicated in order to daily function. (F-DI-6)

Another participant observed the difference between performance at practice and meetings and indicated a lack of focus was present. He said:

> Not as much in practice because FB is such a short spurt and they're in and out and then they're in this drill for seven minutes and they run off to a different part of the field and can refocus there. But we'll frequently get complaints from coaches saying that they're falling asleep at meetings or they can't focus when they're in meetings or watching films and typically it's the kids that they know are on medicine so they'll come down and ask " Hey, do you know if they're taking it?" You know has he come to get a refill lately from the team doctor or um, so they can kind of help us keep tabs on it. We've had some kids who we've actually dispensed their medication through the ATR [Athletic Training Room]. (F-DI-2)

Some student-athletes were not diagnosed with ADHD until certified athletic trainers or academic services staff noticed issues. One particular participant described a situation in which a student-athlete was not diagnosed until they had referred her or him. A first year student-athlete "had done very poorly in classes so she had gone to our learning needs assessment person and they did the testing for it and they did feel that it was appropriate that she be on medication for that." (M-DI/III-4)

Experts cite that student-athletes with a history of substance abuse may also be vulnerable to abusing their ADHD medications (Broshek & Freeman, 2005). This phenomenon emerged in my study when one certified athletic trainer described a student-athlete who had abuse issues with other drugs and then also started abusing his ADHD medications. In this situation, a student-athlete was not only using additional Adderal from a fellow student-athlete, but he was also abusing his own dosage. One certified

athletic trainer indicated that this student-athlete was taking “a 5mg dose and then also doubling up on a 30mg dose.” (M-DI-4)

Certified athletic trainers referred student-athletes with ADHD to team physicians or to academic services so specific diagnoses could be made. Student-athletes who entered school diagnosed by their home physicians simply followed up at home or in other cases, team physicians took over.

Depression. Several participants I interviewed also recognized depression in their student-athletes. One participant referred to this condition saying “depression’s the big one” (M-DIII-18) because he had seen it so often. Certified athletic trainers observed withdrawal from friends, unhappiness, moodiness, performance changes and chronic injury in their student-athletes. According to experts, sadness, social withdrawal and loss of interest in usual activities are signs common to the general population when experiencing depression (Gavin, 2003). Depression symptoms unique to student-athletes are increased injury and illness, as well as competition burnout when suffering from depression (Broshek & Freeman, 2005). This research supports my findings since several certified athletic trainers reported student-athletes suffering from numerous injuries. Certified athletic trainers also mentioned student-athletes lingering in the athletic training room as an indication something was not right. Student-athletes may experience more injuries due to a decrease in concentration and an increase in eating and sleep disturbances. All of which may lead to slower response times, poor judgment and poor decision making which can all contribute to athletic injury (Thompson & Tratner Sherman, 2007).

One research study found that more females than males reported depressive symptoms and also found that freshman females were even more at risk for depression than upperclassmen (Yang et al., 2007). Certified athletic trainers in my study reported working with both male and female student-athletes with depression. Participants found several differences between male and female student-athletes displaying signs of depression. When describing her female student-athletes with depression one certified athletic trainer stated:

> They're so, so different than the male athletes. The female athletes had more what I would say the classic symptoms of being very withdrawn and it was like pulling teeth to get them to talk to you in a conversation. They avoid eye contact, they, you know it's clear they want some sort of social connection because they kind of hang out on the fringe. But if you reach out to them before they're more comfortable, then they get kind of skittish you know and their teammates say that they're becoming socially isolated and things like that. (F-DI-4)

According to the Mayo Clinic, men often exhibit violence or inappropriate rage as a sign of depression (Mayo Clinic, 2008), which supports the findings of my study. Several participants mentioned anger as a sign of depression, especially in their male student-athletes. Specific descriptions of these males included phrases such as: "they will also lash out at their teammates" (F-DI-4) and they were "turning on everybody, coaches, certified athletic trainers." (M-DI-18) Another participant stated "the few male FB guys that I've had with depression have been really angry." (F-DI-4)

What follows are symptoms applicable to both female and male student-athletes. One athletic trainer made reference to a student- athlete with depression by describing

him as: “one that the coach had to go get him every day because otherwise he would sit in his room and sleep with the shades pulled.” (F-DIII-3) Another certified athletic trainer simply stated: “just withdrawal” (M-DIII-18) and one stated “they used to love hanging out with their friends and they just don’t anymore. (F-DI-08) Other participants summarized their experiences working with student-athletes with depression as:

> They just kind of aren’t happy any more or they just kind of feel like something’s missing and they used to love their sport and they really don’t like that stuff anymore, they kind of withdraw, they’re just kind of happier being by themselves, sleeping a lot. Those kinds of things and withdraw from the things that they enjoy and they realize that this isn’t healthy, I’m very unhappy all the time and this isn’t right. (F-DII-6)

Many of the student-athletes suffering from depression became suicidal or threatened suicide as well. When asked if they had ever worked with student-athletes who were suicidal, many participants said they had. One participant said “I’ve had three kids just within the last year and a half that have become suicidal.” (F-DI-8) Another participant who stated “I had attempted suicides, that was at the D1 level, where they tried to slash their wrists and actually I had three attempts in one year.” (F-DIII-3) Over half of the certified athletic trainers interviewed had experiences with multiple suicidal student-athletes whom they worked with and at times, helped refer. When asked how he recognized a student- athlete was suicidal one certified athletic trainer stated

> I would say the suicidal one was a very easy one to tell because she called me with intent to injure and she had the feeling that she was going to harm herself and wanted to harm herself.” (M-DI/DIII-10) Another certified athletic trainer described a similar

> experience stating “definitely I was the person that she had latched onto at that point and um, then got a phone call at like 2:30 in the morning saying I don’t think I can be safe, I think I’m going to hurt myself.” (F-DI-4)

One school had a unique protocol for situations such as this. This institution has certified athletic trainers contract student-athletes for safety over the phone. If student-athletes call certified athletic trainers and threaten to harm themselves, “We will try to get them to do a contract that they won’t do any harm until we can at least get to them and get them some help and that usually works well.” (M-DI/DIII-10) This contract has worked successfully on many occasions for this school and may be effective for others as well.

Certified athletic trainers referred student-athletes demonstrating depression symptoms to team physicians, off-campus and on-campus counseling centers and neuropsychologists. In additional cases, student-athletes that were suicidal were referred to emergency rooms.

Anxiety and panic. Another common mental health issue seen by certified athletic trainers in my study was anxiety. When asked how they recognized student-athletes who were suffering from anxiety, certified athletic trainers used descriptors such as anxious and “jittery.” (M-DI/III-11) Certified athletic trainers also mentioned academic and athletic performance changes, mood fluctuations and sleep difficulties in these student-athletes. Another described a student-athlete with anxiety as having “nervousness over stuff that to me seems like no big deal.” (F-DI-4) One described an athlete as

> Very agitated, very nervous, very the world was caving in with every episode of injury whether it was minor or major. A simple ankle sprain was devastating um, it

> was the end of the world and that was one of the first, I think, noticeable factors from our standpoint. When a bb player with an ankle injury was out for a week and that was the most devastating thing that could happen and eventually another injury that occurred and again not a severe injury and that led to a situation very similar to that. (M-DII/DIII-13)

Certified athletic trainers I interviewed also saw cases of panic or anxiety attacks in their student-athletes. In a couple of cases, student-athletes were fully evaluated for other illnesses before it was determined that signs and symptoms student-athletes experienced were attributed to panic attacks. In these cases pleurisy, cardiac conditions and endocrine conditions were all suspected initially in student-athletes. One certified athletic trainer said the student-athlete will:

> Describe that they're having difficulty breathing because they're just almost hyperventilating because they're getting so worked up about it. She'd be running, running, running and all of a sudden she would just drop and she'd say her heart was racing and she couldn't breathe, and you know, her heart rate was elevated but it was what it should be for somebody that's running. Yeah, at first we thought it was cardiac related and we treated her for pleurisy one year and it helped but I think it was the relief of "Oh, this is what it is" and that's why it went away. (F-DII-6)

Another certified athletic trainer stated that her student-athlete had "a lot of anxiety and her panic attacks develop because she gets so anxious that her body just reacts and she has these panic attacks." (F-DI-8)

Student-athletes suffering from anxiety or panic attacks were referred to team physicians, campus counseling centers and sport psychologists by the certified athletic trainers I interviewed.

Self-injury. Next I will cover certified athletic trainers' experiences with self-injury in student-athletes. Cutting was seen in many student-athletes across a variety of sports. Self-inflicted burns were also seen by certified athletic trainers I interviewed, however, these were less common. The common sites for self- injury mentioned were forearms, upper arms, ankles, quadriceps and behind the knees. Certified athletic trainers also noted that these areas were easily covered up so injuries would go unnoticed. One certified athletic trainer I interviewed described her first encounter with student-athletes' self-injury by saying:

> The very first time that I found out about one of my athletes cutting I didn't even know what cutting was…I had never heard about it before and it was kind of a situation where I had gained the trust of this student athlete enough that through a very sort of in depth, serious conversation…she actually admitted it to me (F-DIII-9).

On one occasion a student-athlete's cut had become infected so the certified athletic trainer needed to provide care for the injury. Certified athletic trainers interviewed referred self-injurers to on and off-campus mental health counseling centers and also to team physicians who in turn, referred them to mental health professionals.

Substance abuse. In addition to self-injury, substance abuse was often seen by the certified athletic trainers I interviewed. Specific substances mentioned were alcohol, prescription drugs (Adderall and painkillers), alcohol, marijuana, cocaine, amphetamines and steroids. Due to NCAA regulations, institutions represented by the interviewees all

had drug testing mandated at least for post-season competition. In many cases, drug testing was commonly done at random times throughout the year. As opposed to the other mental health issues discussed, most institutions had plans in place to handle positive drug tests and substance abuse issues. Due to NCAA violations, substance abuse matters typically involved athletic administration as well as sports medicine departments. Implications for positive drug tests varied per institution but often included a referral to campus counseling centers for assessment. Some institutions had specific substance abuse programs within their athletic departments that handled all positive drug tests.

One certified athletic trainer I interviewed stated that they had a substance abuse program for their student-athletes and stated "oh yeah and we've got plenty of them in it." (M-DI/III-10) This certified athletic trainer described their program by stating If they get a positive drug test or if they get a traffic violation, DUI or something like that due to alcohol or some other substance abuse um, the first step is a meeting with the head AT and then they have to meet with our substance abuse counselor at the student health center. And then once they have met, and there's usually a suspension along with that, so a positive drug test for a recreational drug would give you a week long suspension which is no team activities, you're not at practice, no team meetings, no lifting, no nothing other than treatments and study hall and um, so that's first offense. And then second offense becomes a month long suspension and third offense is technically a year -long suspension. (M-DI/III)

Another certified athletic trainer mentioned his policy and stated "if they tested positive they have to meet with our team physician who does an evaluation to see if it was a recreational time usage or determine if this athlete needs to go meet with a

chemical dependency counselor and do a full chemical evaluation." (F-DIII-3) This same participant stated "there's been at least three kids that have been in at least a thirty day either inpatient or outpatient for alcoholism or marijuana use, um 2 out of the 3 went through, I know and are doing well, one it did not help." (F-DIII-3) One certified athletic trainer brought up their institution's safe harbor policy which enabled student-athletes with substance abuse issues to admit their problem and seek treatment for it. The student-athletes could say "hey, I've got some issues, OK, I'm on this and I can't kick it. Then you don't use your eligibility and you aren't put on suspension but you are put into the counseling program." (M-DI-18)

Referrals for student-athletes with substance abuse issues were primarily made to team physicians, neuropsychologists and off-campus and on-campus substance abuse counselors. In the cases of failed drug tests, coaches and administrators were also involved.

Post-traumatic stress disorder. Certified athletic trainers interviewed also encountered post-traumatic stress disorder in student-athletes. One certified athletic trainer worked with a student-athlete who had been attacked while walking alone at night, while another worked with a student-athlete returning from military duty in Iraq. In both cases these individuals were referred to mental health professionals to receive treatment. It was important for these certified athletic trainers to have education regarding this condition so they could effectively monitor the student-athletes for any changes that might have surfaced. The first case above was referred to an emergency room and the other case was referred to the campus counseling center.

Other mood disorders. Other mental health issues seen by the certified athletic

trainers I interviewed were mood disorders, such as bipolar disorder, borderline personality disorder and schizophrenia. In most of these cases, students were diagnosed with these disorders prior to attending college. Most of these students were already receiving professional help, which continued to be monitored throughout their athletic participation. In a couple of situations, students were identified as behaving oddly. One participant said a student-athlete's teammates had requested the certified athletic trainer "do something about this kid" because they had "reported to me that he had multiple types of unusual behavior". (M-DI-1) On this particular occasion, the student-athlete had caught a mouse and said, with great seriousness, that he was going to take it home and eat it. After this situation the certified athletic trainer referred him to the team physician who then referred him to mental health specialists. The student-athlete was then committed to a mental health facility due to schizophrenia. His condition had not been diagnosed prior to this situation. Another certified athletic trainer mentioned having some difficulties with a bipolar student-athlete who was off his medication and described the situation as "It was one of those long nights." (M-DIII-17) With these conditions, any recommendations that could be provided to the certified athletic trainers from student-athletes regarding their prior mental health treatment would be beneficial. The certified athletic trainers I interviewed made any necessary referrals for student-athletes with bipolar, schizophrenia and other mood disorders to emergency rooms, neuropsychologists, and team physicians who further referred them to behavioral health specialists, such as psychologists and psychiatrists.

Violence. Certified athletic trainers I interviewed encountered violence in student-athletes on occasion. One encounter was described this way:

I had an athlete with anger management, she had anger management issues and to deal with her anger management issues, and… so she'd punch stuff.

> It was weeks in a row or days in a row or whatever, and her knuckles were just scabby, raw from whatever she would hit and it wasn't necessarily the same things, so we were joking around but I gave her boxing gloves and so I was like I understand that you're going to hit things but take these gloves and at least pad your hands. What she decided was that softball was the problem. The coach and the pressure and you know. "Do I really want to play?" and the connotations that go with softball was an issue for her. I mean she looked like a boy, you would not think, she had short, short hair, no make-up ever, she looked like a boy but she wasn't a lesbian. But she hated the fact that people thought she was, so part of that was an issue as well, so she just, she just really needed to get away from softball (F-DII-6).

This student-athlete was referred to a campus counseling center to get assistance. Two other certified athletic trainers I interviewed mentioned violence in their student-athletes with ADHD. One stated "he would become very confrontational….to the point of physical violence". (F-DI-4) Another described a situation in which her student-athlete with ADHD wasn't taking his medications regularly and an incident occurred between the student-athlete and his girlfriend. She stated:

> I do know security was called because he was screaming at her out the window or up at her dorm, so there was like this mini restraining order, like he couldn't come near her or it wasn't like an official restraining order. He's never, I've never experienced it with him. He's never lashed out at me. (F-DIII- 18)

Another student-athlete demonstrated some violence by getting into a fight over the

weekend. The certified athletic trainer said “He’s a good kid but later on in the year he was involved in an altercation where he ended up breaking his pitching hand”. (M-DI-9) The certified athletic trainer attributed this student-athlete’s anger to the impact of parental pressures.

Educational and Experiential Background

The last research question in my study explored the educational and experiential background of certified athletic trainers to. As with the areas of recognition and referral there were positive and negative aspects of certified athletic trainers’ educational and experiential backgrounds that emerged from my interviews. As I continue I will elaborate on my study’s findings which reflected both the positive and negative aspects of certified athletic trainers’ educational background. I first looked at how prepared they were to recognize and refer student-athletes with mental health issues. Next, I explored specific courses they took which helped them recognize mental health conditions. Finally, I asked them to provide specific recommendations they would suggest for the preparation of future athletic trainers.

Background preparation. The majority of certified athletic trainers felt their educational background did not prepare them well for handling mental health issues in their student-athletes. When asked “How do you feel your educational background prepared you to recognize mental health issues in your athletes?” certified athletic trainers responded with a variety of similar statements. One participant stated “not very well at all” (F-D1-4) while another stated “education-wise, I don’t think anything prepared me for it. (M-DI-2) I don’t remember any from my undergraduate or graduate for that matter.” Another certified athletic trainer said “formal education, zero, hardly any

at all" (F-DIII-3) and yet another replied with "I can't really say that anything in my education prepared me for any of this except maybe …no." (F-DII-6) These types of responses came from certified athletic trainers who had graduated from Athletic Training curriculum programs as well as internship programs. Regardless of their educational path, it was clear that most had not received a thorough education in the areas of recognition and referral of mental health issues. I interpreted this lack of educational background as negative in the preparation of certified athletic trainers' to be able to recognize and refer student-athletes with mental health issues. I also think that this lack of background had a negative impact on the development of certified athletic trainers' self-confidence in the ability to recognize and refer student-athletes' mental health issues. This lack of self-confidence, in turn, could contribute to missed mental health issues and ineffective care provided to student-athletes.

Many participants felt they gained their ability to recognize and refer mental health issues in their student-athletes solely through practical experiences. I interpreted this concept as negative because of the lack of educational background. However, it can also become positive as one gains experience by dealing with more and more student-athletes' mental health issues as their career progresses. Each of these experiences leads to certified athletic trainers becoming more capable of managing future student-athletes' mental health issues. One participant described the way she learned about recognition and referral by stating: "I think you know, being in the field for shy of twenty years, um, has obviously the experiences and then I would work with physicians and counselors and I would probably say that was my biggest education." (F-DIII-3) Another participant said "I guess it would have to be more of what I've seen." Another certified athletic trainer

referred to his practical experiences by saying “I think some of the experiences that I had as a student. We had a couple of incidents with eating disorders so you’re able to see those clinically and um kind of keep those in the back of your head.” (M-DII/III-13)

Although most certified athletic trainers mentioned their undergraduate degrees did not prepare them well for the recognition and referral of mental health issues, a few stated that some courses touched on the basics in this area. Classes they cited as helpful in school were in the areas of Sport Psychology and Health Education. According to these certified athletic trainers, classes that were beneficial primarily focused on the recognition of signs and symptoms, but rarely discussed intervention techniques and referral options. None of the certified athletic trainers interviewed felt that they had received adequate education in the area of intervention or referral of student-athletes.

Curriculum suggestions. As a follow up to the above educational aspects, I asked these actively working certified athletic trainers how they felt curriculum programs could best incorporate mental health education into the classroom setting. As indicated earlier, many certified athletic trainers cited practical experience as their best education pertaining to mental health issues. Certified athletic trainers I interviewed felt the best way for newly certified as well as student athletic trainers to learn how to handle these situations was also through hands on experience. Due to confidentiality, it is difficult to include student athletic trainers in the provision of care for mental health issues in student-athletes. For this reason, it is important to find alternative methods to provide student-athletes with adequate educational experiences.

However, certified athletic trainers I interviewed felt even if the most effective method of education (practical experience) is not feasible, it is important to incorporate

education regarding mental health issues into today's curriculum programs. It is also important to recognize the importance of self-efficacy and to incorporate the athletic training students' need to develop confidence in the recognition and referral of mental health issues in student-athletes. Ideally, implementing greater self-confidence in this area will lead to more effective recognition and referral in the future. Ideas suggested for curriculum implementation were guest speakers, role playing and intervention techniques. Guest speakers could include athletes who had competed while dealing with mental health issues, as well as mental health practitioners who could offer advice on how to approach student-athletes of concern. In addition, certified athletic trainers could share their experiences regarding how they handle the recognition and referral of mental health issues in student-athletes they work with. Role playing of scenarios was suggested by a few certified athletic trainers but it is important to note this would need to be done well to achieve the desired outcome. One certified athletic trainer stated:

> I think they need to have more life stories, they need to have, I even remember at grad school taking Psych of Sport and thinking oh, here we go again and then and I think I got a little bit more out of my grad thing but um, at a graduate level for me to relate it to ok here's why this kid is so depressed or whatever. I think you need to take the top 3-5 issues that are happening and you need to maybe go and say in the training room what are you seeing…you're seeing anxiety, depression and eating disorders, you might be seeing cutting, you might be seeing you know depression from a season ending injury (F-DIII-03)

Another certified athletic trainer thought it would be effective to:

> Bring someone in on disordered eating or depression and coping strategies and how

> as an athletic trainer you can deal with that. A lot of times as a certified athletic trainer we are the referral person, maybe the front line to get them to the right person. What to do when somebody that's suicidal calls and how we should handle that. (M-DI/III-10)

Another participant stressed that student certified athletic trainers need to be taught not only the signs and symptoms of mental health issues but also what causes them and "what needs to be done to be able to help these people." (M-DI-2) Another participant summarized her feelings on how mental health issues could best be taught to athletic training students by saying:

> education wise, absolutely case studies, guest speakers, um anything that can make it real for the undergraduate students to say Wow, that person isn't very much older than me. Wow, make it register that we might have an athlete here in our program like that and even certified athletic trainers that have had to deal with that. If I went to talk to them I'd say here's what their symptoms were to me and here's what I did and whatever. (F-DIII-3)

This same participant suggested,

> you know show people that struggled with it, what their signs and symptoms were, and either have scenarios to teach these kids or have guest speakers because that would bring more true or have again guest speakers that have dealt with it or a counselor that is working with um sport psych and say, here's what you're going to see, here's your classic. (F-DIII-3)

Another certified athletic trainer felt there is a need for understanding the "psychological portion of talking to an athlete and trying to get out of them whether they

actually have a problem trying to say the right words to get them to get the help." (M-DI-2) Another participant described this as

> I mean not necessarily recognizing signs and symptoms of stuff, because you can go to one lecture and have that in a handout. But just um, having the tools to be able to sit down one on one and kind of counsel them. It's those kinds of things that you have to deal with and I would say that significantly in the last ten years there's more of it so obviously it's societal and in our kids, too. (F-DII-6)

After exploring certified athletic trainers' recognition and referral of mental health issues in intercollegiate student-athletes as well as the background preparation for certified athletic trainers in the area of mental health issues, many resultant curricular and practical implications can be developed. As this paper continues, suggestions for implementing curricular and practical ideas to benefit certified athletic trainers in the realm of mental health issues will be detailed.

Chapter Four

Conclusion

In this chapter I summarize data that emerged as a result of my naturalistic, interpretive study. This chapter will detail the conclusions I drew based on the findings of my interviews with certified athletic trainers regarding their experiences with student-athletes' mental health issues. First I will review data that emerged as a result of my interviews, and follow this with a summary of findings which revolved around specific research question areas. I will break down emergent data into positive and negative aspects that contributed to certified athletic trainers' recognition and referral of mental health issues as well as positive and negative aspects that contributed to the background preparation of certified athletic trainers. Each of these areas will be followed by a discussion of the additional information gathered specific to each research question. To conclude, I will discuss educational implications, such as continuing education opportunities and athletic training education curricular opportunities. Policy implications that can be put into action by sports medicine staffs as a result of my study's findings will also be covered.

The interviews I conducted prove that student-athletes are definitely experiencing similar mental health conditions to non-athlete college students. A University of MN study indicated that 25.1% of college students had been diagnosed with a mental health condition in their lifetime (Mattern & Ware, 2007). Therefore, it is possible that athletes are experiencing these conditions at the same rate. Burton (2000) suggests that athletes experience mental health issues at the same rate as the general population. However, Broshek and Freeman (2005) point out that "Although it is thought that the frequency of

such psychiatric issues in athletes generally parallels the incidence and prevalence of psychiatric issues in the general population, there has been little empirical study of just how prominent those issues are, or how to most effectively treat them in athletes of any age or ability" (p. 677).

My first research question explored what mental health issues experienced certified athletic trainers were seeing in intercollegiate student-athletes. My study found that mental health issues encountered by the certified athletic trainers I interviewed included eating disorders, ADHD, depression, anxiety, self-injury, substance abuse, PTSD, violence and other mood disorders. Some of these student-athletes had entered college with previously diagnosed mental health issues, while others were diagnosed while in college. Certified athletic trainers require student-athletes to complete pre-participation physical exams before they are allowed to compete. Thus, student-athletes who have previously been treated for mental health issues ideally, reveal that information in their medical history or physical exam. Certified athletic trainers are required to follow the HIPAA guidelines to maintain privacy of medical records, thus confidentiality of student-athletes' information is a priority (Department of Health & Human Services, 2009). Since certified athletic trainers are the primary health care providers for student-athletes in the university setting, they are privy to this confidential medical information.

It has been found that "sports medicine professionals may be the first point of contact for athletes dealing with psychological conditions" (Broshek & Freeman, 2005, p.665). Ray and Wiese-Bjornstal (1999) also believed that certified athletic trainers may be in the best position to notice when student-athletes are suffering psychologically. With this in mind, my second research question examined the role of certified athletic trainers in the

recognition and referral of mental health issues in intercollegiate student-athletes. The results of my study clearly demonstrate that certified athletic trainers often do serve as the front line for the recognition and referral of mental health issues in their student-athletes. The interviews I conducted indicated that, in many cases, student-athletes would not have been referred without the certified athletic trainers' initial recognition of their conditions. On many other occasions, teammates or coaches requested that the certified athletic trainers intervene due to concerns regarding student-athletes' behaviors. With this "gatekeeper" role in mind, it is crucial that certified athletic trainers are able to recognize and refer student-athletes who are displaying signs and symptoms of mental health issues. The prevalence and range of mental health conditions that certified athletic trainers are seeing in their student-athletes proves the importance of recognizing these conditions. As Shell and Ferrante (1996) stress, certified athletic trainers should be aware of any psychological or mood changes in their student-athletes. Possessing this knowledge increases the chance that student-athletes will receive appropriate and timely medical treatment. Certified athletic trainers referred student-athletes' mental health issues to team physicians, on and off- campus counseling centers, neuropsychologists, clergy, sport psychologists, psychiatrists, nutritionists and substance abuse counselors.

The data I gathered from my interviews brought a different perspective on specific research findings as well. After analyzing my data I interpreted findings to have either a positive or negative contribution to certified athletic trainers' recognition and referral of mental health issues in intercollegiate student-athletes. As detailed in Chapter Three, some of the aspects I felt contributed positively to the area of recognition and referral were performance declines, coaches' influences, personal experiences, comorbidity,

Division I resources, the cost and location of campus counseling centers and confidentiality. Aspects I interpreted as contributing negatively to certified athletic trainers' ability to recognize and refer were certified athletic trainers' lack of confidence and coaches' influences. Factors I interpreted as having a negative impact exclusively on referral were lack of resources at the Division III level, location of campus counseling centers and confidentiality.

My third research question examined what educational and experiential background prepared certified athletic trainers to recognize, intervene and refer mental health issues in student-athletes. After data was analyzed, I again interpreted findings as either positively or negatively contributing to certified athletic trainers' ability to recognize and refer student-athletes' mental health issues. As detailed in Chapter Three, certified athletic trainers felt they learned how to recognize and refer student-athletes' mental health issues through their practical work experiences. I interpreted this as having a positive contribution to the effectiveness of certified athletic trainers' ability to recognize and refer student-athletes' mental health issues. After my interviews it was apparent that certified athletic trainers did not feel that their educational background adequately prepared them to recognize and refer student-athletes' mental health issues. Very few certified athletic trainers had any coursework specific to the recognition and referral of mental health issues in their undergraduate or graduate programs. I interpreted this as having a negative impact because having little knowledge of this area leads to self-efficacy issues and therefore, student-athletes' mental health issues may have been missed or ignored. As this chapter progresses, I will provide educational and curricular

policy implications I feel could help certified athletic trainers recognize and refer student-athletes' mental health issues more effectively.

Educational Policy Implications

As described earlier, certified athletic trainers today are seeing a variety of mental health issues in their student-athletes. Because the primary goal of certified athletic trainers is to provide the best possible health care for their student-athletes, it is important that the area of mental health is not left out of the education process. It is clear the area of mental health issues in student-athletes needs to be addressed in the continuing education process for currently certified athletic trainers and in the education of future certified athletic trainers.

Continuing education opportunities. The NATA requires certified athletic trainers to possess skills in the identification of appropriate patients for guidance and counsel, as well as in making referrals to appropriate healthcare professionals (NATA, 2004). Unfortunately, many certified athletic trainers I interviewed indicated they had not received adequate education in this area. Previous research also found that certified athletic trainers were lacking in education regarding psychopathology or psychology of injury (Cramer Roh & Perna, 2000). These experts also found that 79% of certified athletic trainers felt there was a need for further education in the realm of counseling (Cramer Roh & Perna, 2000). Therefore, I suggest that further continuing education opportunities be offered for athletic trainers that are already certified. As Burton (2000) stressed student-athletes are extremely underserved in the area of mental health care. Baum (2005) even suggested that certified athletic trainers be trained in psychology due to their important role in the health care of student-athletes. Improvements made to the

education of certified athletic trainers in the area of mental health will hopefully prove Burton's findings wrong in the future.

My study also confirmed that certified athletic trainers could specifically benefit from intervention and communication techniques which could be utilized when dealing with student-athletes' mental health issues. The NATA Role Delineation states that "effective communication skills are required when making referrals as well as when implementing intervention strategies and subsequent consultation with other healthcare professionals" (NATA, 2004, p. 16). Many certified athletic trainers that I interviewed felt it would be helpful to have some guidelines for approaching student-athletes they were concerned about. Based on these findings, I conclude that incorporating mental health professionals' advice regarding the intervention process would be beneficial. Since certified athletic trainers may be the first ones to express concerns regarding student-athletes' mental health issues, it is extremely important that methods for recognizing and referring these conditions be taught. Although each situation is different, educating certified athletic trainers on basic communication strategies; for instance, what to say or not say to student-athletes with mental health issues could help all those involved. One certified athletic trainer I interviewed stated:

Mental illness is hard to figure out. You know unless they're diagnosed or they're really showing some odd signs. I mean you've got to be careful you can't run around accusing people of being unstable, so you have to walk that fine line. (m-DIII-17)

Certified athletic trainers I interviewed felt that continuing education opportunities would be helpful if they specifically addressed the area of how to most effectively approach a student-athlete they are concerned about.

Continuing education opportunities should be provided regarding a multitude of mental health issues, interventions and referral techniques. Through my interviews I learned that some certified athletic trainers would welcome the opportunities for further continuing education in this area while others would probably elect to pursue other areas of interest. This is to be expected; however my research still supports the need for opportunities in this area. My research also supports the need for the Role Delineation component of psychosocial expectations for certified athletic trainers entering the field to remain.

Athletic training education curricular implications. Aspects of the psychosocial intervention and referral domain are a component in both the classroom and clinical component of athletic training education programs (Mensch & Miller, 2008). The NATA requires education regarding substance abuse, eating disorders and mental and emotional disorders, as well as basic counseling principles (NATA, 2006). In addition competencies must be addressed regarding referral protocols to psychologists, counselors and social workers (NATA). Due to these competency requirements regarding the recognition and referral of mental health issues, it is important for athletic training education programs to ensure referral protocols are effective.

The experienced certified athletic trainers I interviewed definitely feel a need exists for current athletic training curriculums to include education regarding mental health issues. Some certified athletic trainers felt this education would best be gained through practical experiences which could not be taught in a curriculum. However, others offered suggestions as to how this education should best be implemented. Ideas ranged from guest speakers to role playing. Regardless, my study confirmed there is a need for more

education in the area of mental health in athletic training curriculums today. Since the NATA Athletic Training Educational Competencies require education covering a variety of psychosocial areas for intervention and referral, I have concluded this education should be provided through a variety of techniques (See Figure 2).

Figure 2. Athletic training education curricular implications.

Athletic Training Educational Curricular Implications

I. Evaluate current curriculum methods for meeting psychosocial intervention and referral competencies

II. Incorporate additional courses or components of courses which address psychosocial competencies such as:

   A. Mental Health Issues Seen By ATCs

   B. Psychosocial Interventions – include guest speakers
      1. Mental Health Professionals – to offer suggestions on approaching student-athletes
      2. Former Student-Athletes with Mental Health Issues- who are willing to share their experiences
      3. Referral Resources- a review of what professionals are available to

effectively work with student-athletes' mental health issues.Any practical experiences that student athletic trainers can participate in would be beneficial; however, confidentiality is of the utmost importance. If a senior student athletic trainer is working with a student-athlete who has a mental health issue it may or may not be permissible for the student athletic trainer to be included in the intervention and referral process. At times, the student athletic trainers may be the ones to bring concerns to the certified athletic trainers' attention regarding student-athletes, thus it may be more important for them to be involved in the situation. Each situation will be unique. It is very possible

that student athletic trainers may not obtain any first-hand experience with student-athletes' mental health issues before they become certified. Therefore, it is important for athletic training program directors and faculty to evaluate how these competencies are met. This evaluation should examine not only that these competencies are being met, but also that they are being met effectively through a variety of means.

Intervention and referral techniques for mental health issues can be incorporated into many specific Athletic Training courses. For example, recognition of depression after injury and how to monitor a student-athletes' mental health through the rehabilitation process would be a beneficial discussion in a Therapeutic Exercise course. A variety of mental health issues could be covered in a General Medical or Medical Aspects course or in a Psychosocial Intervention of Injury/Illness course. Covering things such as the female triad in a Lower Body Evaluation course should cover some information regarding disordered eating patterns. Nutrition courses should also include discussions of disordered eating patterns. A variety of speakers could be included in these courses including psychiatrists, psychologists, counselors or student-athletes who are willing to share their stories. It would be important that intervention and referral techniques and options be covered rather than simply another review of signs and symptoms.

Athletic training education programs could incorporate new courses such as Psychosocial Interventions in Athletic Training as a requirement, as opposed to other required Psychology classes already in the curriculum, such as Sport Psychology, thus not exceeding credit limitations of the major. Education regarding psychosocial screening tools could be incorporated into curricula, as well. I suggest athletic training education programs incorporate more instruction regarding the recognition and referral of

mental issues in student-athletes into their curriculums as illustrated in Figure 3 below.

Figure 3. Specific athletic training curriculum ideas

Curriculum Ideas

- Intervention techniques
- Guest speakers
- Preparticipation screening tools
- Introduction of new psychology based courses
- Level IV student inclusion whenever possible

Practical Implications

My research suggests sports medicine staff should implement protocols on how to handle the recognition and referral processes for student-athletes with mental health issues (See Figure 2). This would support the NATA's Role Delineation expectations, which state that certified athletic trainers are "well suited to refer cases of psychosocial issues or crisis to appropriate healthcare professionals" (NATA, 2004, p.16). Each institution should establish a protocol unique to their setting to ensure that their student-athletes receive adequate care. In addition, each staff should develop a list of mental health professionals who understand the unique demands of student-athletes and who will provide proper care for their mental health issues. Dependent on available resources, there may be local professionals that specialize in specific areas, for example eating disorders or ADHD. It would be ideal for sports medicine staffs to develop a

professional working relationship with these medical professionals before an emergency occurs.

Lemberger (2008) proposed certified athletic trainers prepare for psychosocial referrals by having a list of established mental health professionals on hand. I suggest that a rapport be made with these professionals prior to needing them. Needs of student-athletes must be assessed and proper referrals made. It is advised that the certified athletic trainers have some advanced contact with mental health practitioners involved, prior to suggesting the psychosocial referral to the student-athletes. Lemberger recommends having three possible resources for student-athletes to choose from, which strengthens the student-athletes feeling of control in the situation. It is then recommended certified athletic trainers evaluate the situation simply by asking how things are going or how the suggestion of referral was taken. Finally, Lemberger suggests to follow-up simply by being supportive as student-athletes follow a path to wellness.

Some institutions have team physicians that are always available to make the necessary referrals to mental health professionals, but other institutions will need to make direct referrals without a team physician's involvement. In both cases, it is beneficial to maintain a list of qualified professionals who can work with student-athletes if the need arises. It may be necessary for the sports medicine staff to provide education to the mental health professionals regarding the unique demands and challenges that student-athletes face. This has been suggested by previous researchers as well. Taylor and Taylor (1997) recommended that mental health professionals be educated regarding student-athletes' schedules and the adaptability that may be necessary for referrals. This

education and communication will ensure that the student-athletes are understood and that proper care can be provided.

In addition, my research suggests that incorporating mental health professionals into an in-service or educational opportunity for sports medicine staffs is also appropriate. The certified athletic trainers I interviewed who received this type of support and training felt more comfortable in handling student-athletes' mental health issues than others. This education could be a meeting at the beginning of the school year to discuss intervention strategies for student-athletes with mental health concerns.

It would also be beneficial for mental health professionals to train certified athletic trainers in the realm of maintaining healthy boundaries when dealing with student-athletes with mental health issues. This will ensure that dealing with student-athletes' mental health issues does not take an emotional toll on the certified athletic trainer providing care. Experts caution certified athletic trainers to take care of themselves when dealing with demanding situations. They stress the importance of "ensuring and sustaining personal and professional boundaries" (Mensch & Miller, 2008, p. 77). Personally, I understand the fear and frustration that can affect certified athletic trainers as they care for student-athletes' mental health issues. It is important for certified athletic trainers to take care of themselves and to make sure that they are not getting too emotionally involved and exhausted when dealing with mental health issues in their student-athletes.

Overall my study suggests that certified athletic trainers are definitely in a role in which they will see mental health issues in the student-athletes with whom they work. This also supports the concept that the ability to recognize and properly refer student-

athletes with mental health issues is a necessity. In addition, this strengthens the idea that psychosocial interventions and referrals should be a continuing expectation for the NATA BOC Role Delineation Study as well as the NATA Athletic Training Educational Competencies. Certified athletic trainers should take advantage of available continuing education opportunities in the areas of recognition and referral of mental health issues. These competency areas should also be met effectively in all Athletic Training education programs. All intercollegiate sports medicine staffs would benefit from having protocols in place for referral of student-athletes with mental health issues. In addition, sports medicine staffs should also take precautions to set healthy boundaries when dealing with these students.

Experts recommend the inclusion of a psychosocial component in pre-participation exams for student-athletes (AMSSM, 2004). However, few certified athletic trainers I interviewed utilized a psycho-social screen with their student-athletes. I feel that the inclusion of some type of psychosocial screen would benefit university sports medicine programs. I encourage sports medicine staffs to explore the utilization of a psychosocial component in the pre-participation exams and to have discussions regarding the benefits of this type of screening tool with team physicians.

Figure 4. Practical Implications for Certified Athletic Trainers

Establish protocol unique to your setting which addresses:

1. Who is to be contacted in case of emergency?

   (Team physician, Head ATC, Sport ATC, parents, etc….)

2. Facilities and professionals available to handle mental health crises
   a. Emergency Rooms
   b. Crisis Management Center
3. Develop contact list of mental health professionals in your community or nearby
4. Educate mental health professionals on the needs and demands unique to student-athletes (if necessary)
5. Incorporate psychosocial component to pre-participation physical exam or health screening
6. Educate mental health professionals on the role of the certified athletic trainer in student-athletes' health care

It is critical that student-athletes receive optimal care not only for issues with their physical health but also for their mental health. Certified athletic trainers that can recognize and refer student-athletes with mental health issues are exemplifying the expectations student-athletes, coaches, sports medicine staffs and the NATA have for them.

Many areas of additional research could be explored regarding certified athletic trainers' recognition and referral of student-athletes' mental health issues. Further research could be conducted in a number of areas. It would be interesting to see if DI institutions were actually recognizing and referring student-athletes' mental health issues more effectively due to the availability of resources. This was not determined in my

study due to confidentiality of medical records that were not explored. It would also be interesting to determine if personal experiences with mental health issues led to more effective management of student-athletes' mental health issues. Additional areas that could be further explored are sport specific and gender specific trends in mental health conditions.

In summary, today's certified athletic trainers are encountering a wide variety of mental health issues in the intercollegiate student-athletes they work with. It is important for certified athletic trainers to continue to gain education in the area of recognition and referral of mental health issues in student-athletes so that they can provide the best possible care. Institutions should implement mental health referral protocols specific to their needs and available resources. It is also important for athletic training programs to modify the curriculum to provide educational opportunities that encompass the areas of recognition and referral of mental health issues in student-athletes. This can be done through the addition of specific courses, the incorporation of speakers and clinical experiences in the area of recognition and referral of mental health issues in student-athletes whenever possible.

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APPENDIX A

IRB

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The IRB: Human Subjects Committee determined that the referenced study is exempt from review under federal guidelines 45 CFR Part 46.101(b) category #2 SURVEYS/INTERVIEWS; STANDARDIZED EDUCATIONAL TESTS; OBSERVATION OF PUBLIC BEHAVIOR.
Study Number: 0804E30389
Principal Investigator: Mary La Rue
Title(s):
The Role of Certified Athletic Trainers in the Recognition and Referral of Mental Health Issues in Intercollegiate Athletes

_____

This e-mail confirmation is your official University of Minnesota RSPP notification of exemption from full committee review. You will not receive a hard copy or letter.
This secure electronic notification between password protected authentications has been deemed by the University of Minnesota to constitute a legal signature.
The study number above is assigned to your research. That number and the title of your study must be used in all communication with the IRB office.
Research that involves observation can be approved under this category without obtaining consent.
SURVEY OR INTERVIEW RESEARCH APPROVED AS EXEMPT UNDER THIS CATEGORY IS LIMITED TO ADULT SUBJECTS.
This exemption is valid for five years from the date of this correspondence and will be filed inactive at that time. You will receive a notification prior to inactivation. If this research will extend beyond five years, you must submit a new application to the IRB before the study's expiration date.
Upon receipt of this email, you may begin your research. If you have questions, please call the IRB office at (612) 626-5654.
You may go to the View Completed section of eResearch Central at http://eresearch.umn.edu/ to view further details on your study.
The IRB wishes you success with this research.
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Reminder: Logout when you have finished. Logged in as: laru0007
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From: irb@umn.edu
To: laru0007@umn.edu
Date: Wed, 23 Apr 2008 10:17:29 -0500 (CDT)
Subject: 0804E30389 - PI La Rue - IRB - Exempt Study Notification
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GopherMail Service: Message Display Page 1 of 2
https://gophermail.umn.edu/session/laru0007//AAAG@display@594@1320 4/28/2008

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Logout

GopherMail Service: Message Display Page 2 of 2
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APPENDIX B

CONSENT FORM

The Role of Certified Athletic Trainers in the Recognition and Referral of Mental Health Issues in Intercollegiate Athletes

You are invited to be in a research study regarding The Role of Certified Athletic Trainers in the Recognition and Referral of Mental Health Issues in Intercollegiate Athletes. You were selected as a possible participant because you are a certified athletic trainer with at least five years of experience and are currently working with intercollegiate athletes. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by: Mary LaRue through the University of Minnesota

Background Information

The purpose of this study is to determine what mental health issues certified athletic trainers are seeing in intercollegiate athletes. It will examine how certified athletic trainers are recognizing these conditions and what steps they are taking in the referral process for these athletes. In addition, it will explore the educational background that helped prepare athletic trainers to recognize these conditions and then make appropriate referrals. It will also determine what experienced certified athletic trainers feel would improve the mental health component of current Athletic Training Curricula.

Procedures:

If you agree to this study you will be asked to participate in a 60-90 minute interview either by phone or face-to-face. This interview will be digitally audio-recorded and cassette audio-recorded. In addition, a follow-up phone call will be made to gather any other pertinent information that may have been missed in the initial interview. Interviews will then be typed verbatim by the primary investigator. Interview transcripts will then be sent back to you for your perusal to ensure that you are accurately represented. Transcripts will then be imported into the NVivo 8 qualitative software analysis program.

Risks and Benefits of being in the Study

There are no risks to participation in this study. Your participation in this research, however, may benefit the advancement of the profession of athletic training by improving the educational opportunities for continuing education and by improving current athletic training curriculums.

Confidentiality:

The records of this study will be kept private. In any sort of report that might be published, we will not include any information that will make it possible to identify a subject. You will never be mentioning any athletes' names and you will never be asked to obtain any athletes' medical records. Research records will be stored securely and only the primary investigator will have access to the records. Any audio recordings and interview transcripts will be stored securely by the primary investigator and will be destroyed upon completion of the study. Any electronic data including e-mail correspondence, interview transcripts, and digital audio recordings will be stored on the primary investigator's personal computer and will be password protected. Pseudonyms will be used to identify each participant so there will be no identifiable information linking any participant to their data. Backup data will be stored on a USB drive that will be stored securely by the primary investigator.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota or with Mary LaRue, the primary investigator. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researchers conducting this study are: Mary LaRue and Dr. Diane Wiese-Bjornstal. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact them, Mary LaRue 715-562-0262, laruemj@uwec.edu or Dr. Diane Wiese-Bjornstal 612-625-6580, dwiese@umn.edu

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **you are encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

APPENDIX C

PILOT STUDY INTERVIEW QUESTIONS

The questions utilized in the pilot study were as follows:

* * Have you ever worked with a student-athlete with a mental health issue? (**See below)

- What types of mental health conditions have you seen in the student-athletes that you have worked with?
- How did you determine that this athlete was struggling with a mental health issue?
- What was the most difficult encounter you've had relative to an athlete with mental health concerns?
- What types of conditions have you made referrals for*?*
- How was the referral handled?
- What effect do you feel that your referral had on this athlete?
- Tell me about a case in which you felt you played a successful role in helping an athlete with a mental health concern.
- What aspects of your educational background prepared you to recognize and refer athletes suffering with mental health concerns?

With the exception of the first question (** marked with asterisks), the pilot study confirmed that the questions posed were effective in obtaining the desired information for the current study. The first question was eliminated due to its close-ended format which would be ineffective for the current research.

APPENDIX D

PARTICIPANT INFORMATION

PARTICIPANT INFORMATION

Code	Gender	Division/s	Interview Type
M-DI/DDIII-1	Male	DI/DIII	Phone
M-DI-2	Male	DI	Phone
F-DI/DIII-3	Female	DI/III	Phone
F-DI-4	Female	DI	Phone
M-DIII-5	Male	DIII	F/F
F-DII-6	Female	DII	F/F
F-DIII-7	Female	DIII	F/F
F-DI-8	Female	DI	Phone
F-DIII-9	Female	DIII	F/F
M-DI/DIII-10	Male	DI	Phone
M-DI/DIII-11	Male	DI	Phone
M-DIII-12	Male	DIII	Phone
M-DII/III-13	Male	D II/III	F/F
F-DIII-14	Female	DIII	F/F
M-DII/DIII-15	Male	DII/III	F/F
FI-DI-16	Female	DI	F/F
M-DIII-17	Male	DIII	F/F
M-DI -18	Male	DI	Phone

APPENDIX E

INTERVIEW GUIDE FOR CURRENT STUDY

Demographic questions were:

- How many years have you been working as a certified athletic trainer with intercollegiate athletes?
- What NCAA divisions have you, and are you currently, working with?

My interview questions were as follows:

- What types of mental health conditions have you seen in the student-athletes that you have worked with?
- How did you determine that this athlete was struggling with a mental health issue?
    - Signs and symptoms?
    - Teammates/roommates concerns?
    - Performance changes?
- What was the most difficult encounter you've had relative to an athlete with mental health concerns?
    - Denial?
    - Malingering?
- What types of conditions have you made referrals for?
    - Substance abuse, eating disorders, ADHD?
- How was the referral handled?
    - Who did you refer to and why?

- Where there limitations due to your campus, community or other institutional guidelines?
- Did insurance play a role?

- What effect do you feel that your referral had on this athlete?
- Helped?
- Withdrew?

- Tell me about a case in which you felt you had played a successful role in helping an athlete with a mental health concern.
- Institutional assistance?
- Mental health emergency plan in place?
- Parents?

- What aspects of your educational background prepared you to recognize and refer athletes suffering with mental health concerns?
- Practical experience?
- Coursework?
- What additional background would have helped you handle this situation?
- Continuing education benefits? In the future, also?

APPENDIX F

CODING LISTS FOR ANALYSIS

CODING LIST

Mental Health

MH:	ADHD	MH-AD
MH:	Depression	MH-DEP
MH:	Eating Disorders	MH-ED
MH:	Anxiety	MH: ANX
MH:	Violence	MH: VI
MH:	Substance Abuse	MH: SA
MH:	Self-Injury	MH:SI
MH:	Suicide	MH: S
MH:	Mood Disorders	MH: MD
MH:	Post-traumatic Stress	MH: PTS

Referral Resources

RR:	Campus Counseling	RR: CC
RR:	Clergy	RR: CLER
RR:	Neuropsychologists	RR: NP
RR:	Nutritionist	RR: NTT
RR:	Off Campus Counseling	RR: OCC
RR:	Psychiatrist	RR: PSY
RR:	Sport Psychologist	RR: SP
RR:	Substance Abuse Counselor	RR: SAC
RR:	Team Physician	RR: TP

Educational Background

EB: Practical Experience	EB: PE
EB: Course Work	EB: CW