Positive Psychology in Collegiate Sport:

Leveraging the Pivotal Role of the Athletic Trainer to Promote Student-Athlete Well-being

Jessica Turak, ATC

University of Pennsylvania

A Capstone Project Submitted

In Partial Fulfillment of the Requirements for the Degree of

Master of Applied Positive Psychology

Advisor: Gloria Park, Ph.D., MAPP

August 1, 2017

Positive Psychology in Collegiate Sport:

Leveraging the Pivotal Role of the Athletic Trainer to Promote Student-Athlete Well-being

Jessica Turak, ATC
jturak@upenn.edu

Capstone Project
Master of Applied Positive Psychology
University of Pennsylvania
Advisor: Gloria Park Ph.D., MAPP
August 1, 2017

Abstract

Research suggests that the state of collegiate student-athlete psychological health is poor**,** and current protocols for identification and referral are insufficient. According to the NCAA and NATA, the athletic trainer plays an essential part in this identification and referral process. Yet, many ATs report lacking confidence and readiness to address the psychological components of athletic injury. They also struggle to navigate unclear policies that obfuscate effective action. While diagnosing and treating psychological illness is outside of the ATs scope of practice, in order to improve the athletic trainer's ameliorative capacity, positive psychology should be an integral component of their educational competencies. Positive psychology, as a growing facet of psychology and healthcare, focuses on the importance of well-being as a significant contributor to mental health. In order to bolster student-athlete wellness, the NATA must strongly consider adopting initiatives that enhance positive emotions, psychological well-being, and optimal functioning, through greater incorporation of evidence-based constructs of positive psychology into the NATA *Code of Ethics* and *Educational Competencies*.

Keywords: athletic trainer, college, student-athlete, well-being, NCAA, NATA, positive psychology, resilience, sport

Acknowledgements

Thank you to my sister for your continual support and unwavering belief in me.

Thank you to my coworkers for covering my teams and taking care of my athletes allowing me to attend MAPP classes. I hope this will help to enhance our beloved profession.

To my friends, thank you for being understanding and tolerant of my lack of presence in your lives. I will see you soon. I promise.

I am grateful to my advisor, Gloria Park, for her gentle guidance and immense patience in the Capstone writing process. Thank you for amazing insights and supportive kindness throughout the year.

To Leona and James, from the bottom of my heart, thank you for this amazing opportunity to grow personally and professionally. Without you, the Magic of MAPP would not exist.

Finally, thank you, Pat. I am forever appreciative of your love and support this past year. You made this accomplishment possible from your minor supportive gestures to the major self-sacrifices. This year has been the most transformational year of my life and you stood by my side the whole time, so we could both learn and grow together.

Introduction

Old photographs and home movies capture my interest in sports long before I am actually able to remember. My motor skills developed early: crawling started at 5 months, walking near 8 months, and riding a two-wheeler at the age of two years old. Growing up, I was a tomboy: gravitating towards any outdoor physical activity rather than being indoors. Every day my mother would send me to preschool wearing lacy, bow-adorned outfits suitable for proper little girls, and every day at school I would change into the athletic shorts and t-shirt that I stowed in my backpack before leaving the house. Even at a young age, I would not allow my physical capabilities be limited by things like socially standard attire for girls. I joined t-ball as early as a league would allow and entered multiple other sports as soon as I met the age requirements. In middle school, my interest in exercise expanded, and while the other girls my age were requesting clothes, makeup and body spray for Christmas, I asked my parents for a home training gym. In high school, every summer was a tide of athletic tournaments, game after game, day after day, and my teammates grew to become my best friends.

When the time came to consider my college career, I visited numerous places and met with multiple coaches. Deciding which sport to pursue was my biggest concern until my mother, advancing her own prospect for my future, pressured me to ignore athletic concerns and choose a college based on education. Following my passion for sport and exercise, I chose to declare Kinesiology as my major with a concentration in Athletic Training. Early in my sports career, I had learned to appreciate the important work of an athletic trainer: as a consequence of multiple sprains, a fracture, and numerous strains, I spent a fair amount of time in the athletic training room. I even understood that it was hard and thankless work through interviews with my athletic trainer. Despite his advice to avoid the profession if I wanted a life of my own, I decided that if I

could not continue my career as an athlete, then I would immerse myself in a familiar environment, and devote my life helping others attain their dreams.

In my senior year, after three years of trying to balance rigorous academics, demanding clinical hours, a work-study job, community service group leadership, intramural sports participation and a social life, I was experiencing severe anxiety. I began to burn out trying to maintain my appearance and eventually felt like I was drowning. Finals concluded the fall semester and somehow I managed to survive, but not without making a promise to myself to seek help during the winter break. Within the week, I was diagnosed with clinical depression. I was prescribed an antidepressant medication and continued to suffer in silence throughout the spring semester, and struggle for years to come. It wasn't until a few years after college and into my professional career that I became conscious of the true influence that I have over my decisions and emotional state. At that point, I decided that I no longer wanted to live my life suffering in depression, and that from that moment on, I would make my choices with the conscious intent to live a more fulfilling life of self-love and gratitude.

At this point in time of my professional career as an athletic trainer, I was aware of problems within collegiate athletics regarding student mental health issues. However, until my own realization, I did not have a way to properly identify or help address such issues. Now, after overcoming my own experiences with stress, anxiety, burnout, and depression, I was building the mindset to help me to empathize with my athletes and guide them by my own wisdom. I truly believe that we each have the power to choose who we want to be if we are able to make a conscious decision, and are willing to work to make the change. In this simple way, I have been fortunate to be able to help numerous athletes with anxiety and depression just because I could empathize, creating an open line of communication and building a trusting relationship.

Athletic training is a profession where you have the ability to interact with athletes and positively affect their attitude, not only in their athletic performance or injuries, but in their personal lives as well. I have almost 10 years of clinical experience treating athletes and their injuries. This experience has given me the opportunity to positively influence athletes in ways as complex as injury rehabilitation and returning the athlete to competition, or simple as lending an ear to listen, or sometimes even a shoulder to cry on during tough times. Becoming more consciously aware of my impact on student-athletes, I wanted to expand my knowledge and skill set to better facilitate a positive environment. My search to better myself, in order to better help others, directed me to a master's program at my place of employment. I entertained the idea of applying for almost two years as nothing more than wishful thinking, certain that it was unrealistic to enroll while maintaining the demanding time requirements of an athletic trainer.

In January of 2014, a student-athlete at The University of Pennsylvania, Madison Holleran, took her own life. This tragedy opened my eyes to an inescapable truth. Despite everything I did to help my athletes endure their struggles, it was only ever reactive, and it wasn't always going to be enough. I needed to find a way to proactively help my athletes, to go beyond dispelling the negative, to build and strengthen the positive in this group of people that trusted me to help. I needed to continue my education in Positive Psychology.

Positive Psychology

After World War II, psychology predominantly imitated the existing model of medical practice, focusing on pathology. While conventional medical techniques and research are essential to treating and alleviating existing pathological conditions and illness, it is also practical to investigate and implement proactive solutions, such as proper nutrition and physical exercise,

to prevent medical issues before they begin. In much the same way, Martin Seligman, during his 1998 presidential address to the American Psychological Association, suggested shifting the attention of psychology from a focus on mental illness to living "the good life" and flourishing (Pawelski, 2016a; Pawelski, 2016b). Through years of research in clinical depression, Seligman saw an opportunity for psychologists to extend their help to the entirety of the population. Seligman believed that everyone could benefit from reinforcing skills of positive resilient thinking, not just people with mental pathologies. This lead him to push the movement of positive psychology and the scientific research on "the best things in life" and "what makes life most worth living" (Pawelski, 2016a; Pawelski, 2016b).

Eliminating or reducing problems are just one way to improve the human condition. Efforts to improve the human condition should also include discovering and cultivating "what goes right in life between birth and death" **(**Peterson, 2006, pg. 4**)**. Through developmental research in the field, Seligman and Csikszentmihalyi (2000) identified three main areas of focus in answering Peterson's question: positive experiences, positive character traits, and positive institutions. Positive experiences include those that elicit positive emotions; positive traits are strengths of character, as well as attributes such as intelligence and athleticism. Positive institutions include supportive networks of people, like family or community, that reinforce personal values, further bolstering your positive emotions (Seligman, 2002). Furthermore, after years of scientific study, Seligman identified more components of a life well-lived. Seligman's (2011) theory of well-being, PERMA, includes five significant elements: **P**ositive emotion, **E**ngagement, Positive **R**elationships, **M**eaning, and **A**chievement. Each component factors independently in contributing to well-being, and is sought for intrinsic purposes, for its own sake (Seligman, 2011).

The first component of well-being, positive emotion, includes happiness and life satisfaction. It is important to note that unlike some previous philosophies, PERMA views positive emotions as a contributing factor to strong mental well-being, rather than the ultimate end goal (Seligman, 2011). Engagement relates to what individuals experience during a state of extreme focus during an activity, when nothing else in the present moment matters, or what Czikszentmihalyi (1990) describes as "flow". During flow, individuals experience an optimal state of absorption, arousal, and fulfillment in skillful execution, which is also enjoyable and done for the sake of itself (Czikszentmihalyi, 1990). The next component, relationships, is a key factor in well-being. While some components of well-being may stem from internal sources, one of the strongest enablers of well-being is close, positive relationships with others (Baumeister & Leary, 1995; Haidt, 2006). According to the research of Diener and Seligman (2002), the only standout trait that very happy people have in common is that they are highly social individuals. There are also many positive aspects to having close relationships; they enhance our ability to capitalize on good news, cultivate social support, and often lead to self-expansion by helping us see other perspectives and grow as individuals (Gable & Gosnell, 2011). Seligman (2011) frames meaning as having both subjective (what one feels is meaningful) and objective (based on logic and reason) factors that influence our decision on what gives purpose to our life and its trajectory. Meaning is conducive to an individual's ability to exert mastery over their environment. Accomplishment allows the individual a measurable way to know their actions have meaning and this feedback is what provides the individual a sense of control in one's life (Seligman, 2011).

PERMA, and other discoveries like it, provide a framework for people to become more conscious of ways they can examine their own well-being, and illuminate simple pathways to

improve their lives. Such frameworks will be important for evaluating the needs of many populations, and one of notable consideration should be the collegiate student-athlete.

The Collegiate Athlete

More than 460,000 students participate in NCAA collegiate athletics every year. This student athlete population is subject to a unique variety of stressors that can compromise their well-being, including strenuous athletic, academic, and social demands (Huffman, 2014). Research suggests that in addition to education and other extracurricular activities, college student-athletes typically spend more than 40 hours per week participating in sports-related activities, which cumulatively can lead to increased physical and psychological exhaustion (Eitzen, 2012). The sheer volume of environmental stressors in college athletics, including academic pressure (Cosh & Tully, 2014; Cosh & Tully, 2015), time management (Humphrey, Yow, & Bowden, 2000; Hwang & Choi, 2016; Papanikolaou, Nikolaidis, Patsiaouras, & Alexopoulos, 2003), sports performance, social interactions, sleep deprivation, coaching styles, potential injury, and parental pressures, can expose athletes to multiple mental health risk factors (Kroshus, 2016). On top of this, adapting to an independent lifestyle away from home, and building new relationships, can be psychologically daunting, which may contribute to depression and anxiety (Yang et al., 2007). Sport participation itself can become a stressor due to performance pressure, constant evaluation, and the overall physical and psychological investment required (Lazarus, 2000). It is then worth investigating the extent of challenges and risks present for current student athletes.

Physiological Health

Physical activity, one of the fundamental components of nearly every sport, can improve student-athlete health in numerous ways. The research supporting the potential physiological benefits of exercise is extensive. Physical activity has been demonstrated to improve basal metabolic rate, cardiovascular health, and markers of immune function (Dolezal & Potteiger, 1998; Dimmeler & Zeiher, 2003; Nieman & Pederson, 1999); to mitigate risk for coronary heart disease, type 2 diabetes, osteoporosis, and various types of cancer (Breslow, Ballard-Barbash, Munoz, & Graubard, 2001; Slattery & Potter, 2002; Kohl, 2001; Knowler et al., 2002; Vuori, 2001); and to moderate the negative effects of osteoarthritis, hypertension and obesity (Vuori, 2001; Blair, Goodyear, Gibbons, & Cooper, 1984; Blair, 1993). Additionally, properly structured physical activity can improve athleticism through increases in muscle mass, greater strength, higher bone density, and improved cardiovascular fitness (Ahtiainen, Pakarinen, Alen, Kraemer, & Häkkinen, 2003; Bass et al., 1998; Gutin et al., 2002).

However, the competitive nature of athletics can also increase risk of injury and physical trauma. Collegiate athletes participate in intense, prolonged exercise, which while preparing them for competition, can also lead to overtraining complications like stress fractures, tendinopathy, and muscle strains (Ekstrand, Hagglund, & Walden, 2010; Knapp & Garrett, 1997; Knobloch, Yoon, & Vogt, 2008; Roos et al., 2015). Most of these problems arise from cumulative, recurrent effects, like daily microtrauma to various tissues (Warburton et al., 2000). With sufficient recovery, most of the risk factors of these issues will recede. However, adequate recovery scarcely occurs in collegiate athletics, and deteriorating physical and mental health can instigate a downward spiral that severely inhibits an athlete's mind, body, and performance

(Brenner, 2007; Cuff, Loud, & O'Riordan, 2010; Emery, 2003). It is then important to understand how poor physical health and mental health relate to each other.

Injuries

As previously stated, collegiate athletes are subject to a wide variety of environmental stressors that are detrimental to both their physical and mental health. To compound this, evidence suggests that many of the psychological disruptions that athletes experience may be predictors of injury. Andersen and Williams (1988) propose that athletes that have a history of stressful life events, personality characteristics that exacerbate stress (anxiety), and few coping resources are more likely to exhibit greater physiological activation and attentional disruptions during stressful situations. These increased patterns of activation and disruption have been proposed to be mechanisms for greater injury risk (Andersen and Williams, 1988). One such way that stress, anxiety, and depression might act as risk factors for injury is by causing interference with task performance and cognition. In such situations, the athletes are functionally completing their physical and mental tasks, but they are not fully present in the moment, and therefore, not in control (Smalley & Winston, 2010). Without mindful movement, athletes might not notice a bodily sensation of fatigue, imbalance, or weakness and continue to participate in activity, causing further risk or damage to themselves.

Furthermore, while psychological stressors can often predict injury, they also can impede progress during the post-injury rehabilitation process (Roh & Perna, 2000). Injuries are an unavoidable part of sport participation, and while many are minor, causing little to no detriment to an athlete's physical or mental state, major injuries may trigger a psychological response that unmask serious mental health issues such as depression, anxiety, disordered eating, and

substance abuse (Putukian, 2016). For example, in a study following the recovery of 8 injured athletes, researchers found that during early phases of rehabilitation, athletes expressed frustration and depression due to incapacitation and the consequent disruption of normal function and sport involvement. In the middle of the recovery process, depression was linked to a negative appraisal of rehabilitation success, leading to apathy and poor adherence to treatment. By the end of rehabilitation, increased impatience to return to sport was the main instigator of frustration and depression (Johnston & Carroll, 1998).

A certain tool, the "Integrated Model of Response to Sport Injury Rehabilitation", provides a useful framework to analyze psychological responses of injured athletes (Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998). According to this model, various factors, such as injury history, personality, motivation and sport identity, can all influence an athlete's cognitive appraisal, and subsequently, their emotional and behavioral responses, to an injury. The athlete's intellectual and emotional evaluation impacts both physical and psychological recovery outcomes, which can create a feedback loop affecting overall rehabilitation (Wiese-Bjornstal et al., 1998). From this information, it should be clear that omitting psychological factors in the injury prediction and rehabilitation processes can lead to decreases in performances, longer recovery periods, potential non-compliance to physical treatment, and increased risk for further injury and negative psychological outcomes.

Psychological Health

As mental wellness is the primary consideration of this thesis, it is critical to understand the role that physical activity plays on psychological health, and the disparity that exists within athletics. The literature on physical activity provides considerable evidence linking exercise with

positive effects on psychological health. General exercise can improve mental well-being, life satisfaction, emotional satisfaction, agency, and quality of life, while also enhancing sleep quality and overall energy levels (Magyar-Moe & Lopez, 2015; Ratey & Loehr, 2011; Scully, Kremer, Meade, Graham, & Dudgeon, 1998; Youngstedt, 2005). Additionally, evidence suggests that exercise can have protective effects against anxiety, depression, and other mental illnesses. A meta-analysis of 25 randomized controlled trials found exercise to have a large antidepressant effect on patients clinically diagnosed with depression (Schuch et al., 2016). Across the 25 studies, 1487 participants with depression experienced reduction in depressive symptoms after incorporating moderate to vigorous intensity exercise, but supervision of an exercise professional was associated with the largest antidepressant effects (Schuch et al., 2016). Other psychiatric protocols suggest that exercise may help in the treatment of multiple other psychological conditions, including addiction (Linke & Ussher, 2015), attention deficit disorder (Kamp, Sperlich, & Holmberg, 2014), depression (Dinas, Koutedakis, & Flouris, 2011), and anxiety disorders (Asmundson et al., 2013).

However, despite the potential psychological benefits of physical activity and exercise, collegiate student athletes are still heavily prone to mental illness. As recent literature suggests, collegiate student-athletes are just as likely as the general population to experience depression and other mental health issues, at a rate ranging between 15.6% to 21% (Proctor & Boan-Lenzo, 2010; Reardon & Factor, 2010). A more recent study of 950 NCAA Division I student-athletes by Cox (2015) shows that there has been a recent increase in reported depressive symptoms. In this study, 33.2% of athletes experienced symptoms of depression. Athletes with higher rates of depression were more likely to be underclassmen, female, recently injured, or currently in the competitive season (Cox, 2015). Moreover, athletes are prone to other negative psychological

conditions, including eating disorders, (Johnson, Powers, & Dick, 1999) anxiety, (Yang et al., 2007) and burnout (Gould & Whitley, 2009). In order to address the difficult state of mental health in college athletics, it will be necessary to introduce coping strategies and mechanisms to provide proactive treatment.

Relationships/Social

Group dynamics are important to well-being because humans need social support. People desire belongingness and the satisfaction of being part of something bigger than themselves (Haidt, Seder, & Kesebir, 2008). Strong social support has the capacity to bolster well-being, provide protective effects against stress, and is predictive of low symptomatology of depression and anxiety (Cohen & Wills, 1985; Zimet, Dahlem, Zimet, & Farley, 1988). However, due to the time demands of collegiate athletics, student athletes actually report social relationships as a source of stress, and more frequently than their non-athlete peers (Humphrey et al., 2000; Papanikolaou et al., 2003; Wilson & Pritchard, 2005).

Due to the considerable time in sport, athletes have very little time to build relationships with peers outside of the athletic community. This limits the scope of an athlete's social interaction to very few people except teammates, and, while team membership and working towards a common goal naturally creates relationships, research suggests there is an underlying competitiveness within the dynamic that might make it difficult to feel comfortable and safe (Lanning, 1982). Without time for other significant relationships, athletes may not have other social groups to rely on for support. Additionally, teammate interactions themselves can be a source of risk depending on the group's identity and cohesiveness. A group with a stronger sense of collective identity can increase the likelihood that an individual will align their attitude with

that of the team. Under certain circumstances this may provide a strong positive support structure for an athlete. However, a team with members that perpetuate detrimental activity, such as disordered eating, substance abuse and other risky behaviors, could possibly create a negative culture that propagates destructive behavior throughout the whole team (Brown, 2014). This research is consistent with Fowler and Christakis' (2009) work, which suggests that if a person's social network is not happy, then the individual is less likely to be happy. Thus, team culture and cohesiveness can be a primary factor in influencing the well-being of a student-athlete.

Alcohol Abuse

Student athletes also present a high risk for alcohol use (Nelson & Wechsler, 2001), and it may be that their unique variety of stressors exacerbate their risk for alcohol use and its associated problems. In an attempt to proactively address the matter, approximately 60% of all collegiate athletic organizations provide an alcohol education program to its student-athletes (Wechsler & Nelson, 2008). However, despite their efforts, alcohol usage among college students is a serious health concern, and student-athletes are a high-risk population for heavy alcohol consumption relative to their non-athletic peers (Martens, Watson, Royland, & Beck, 2005; Martens, Labrie, Hummer, & Pederson, 2008; Nelson & Wechsler, 2001). The National Institute on Alcohol Abuse and Alcoholism (2017) defines binge drinking as consuming 5 drinks per night for men and 4 drinks for women. In a study that surveyed 720 collegiate athletes across nine universities, 60% of male athletes and 50% of females reported binge drinking behavior within the previous 2 weeks, while the non-athletic population reported 44% (Brenner & Swanik, 2007). Collegiate athletes consume a higher quantity of alcoholic drinks and with greater frequently, leading to more negative consequences in comparison to their non-athletic

peers, including greater number of sexual partners and less use of contraceptives while under the influence of alcohol (Nattiv & Puffer, 1991; Nattiv, Puffer, & Green, 1997; Brenner & Swanik, 2007).

One possible explanation for the higher consumption in this population is, again, that student-athletes experience heightened physical and psychological stress, and greater time constraints than their non-athlete counterparts (Brenner & Swanik, 2007; Martens, Dams-O'Connor, & Beck, 2006; Watson, 2002; Yusko, Buckman, White, & Pandina, 2008). Gayles & Baker (2015) found a correlation between higher alcohol consumption and more severe symptoms of psychiatric disorder in college athletes, which might suggest athletes lack healthy coping mechanisms and instead turn to substance abuse in order to alleviate their stress. Another possible explanation is that athletes may be attempting to compensate for the parties and social interactions that they believe they are missing. Dams-O'Connor, Martin, & Martens (2007) found that athletes believe that other students, both non-athletes and other athletes, consume more alcohol than they actually do, and that this perception leads them to greater personal consumption. Implementing efforts to teach appropriate coping mechanisms are necessary to battle the underlying cause of excessive alcohol consumption in the student-athlete population.

Sleep

Sleep has an important role in regulating physical and mental health. A study by Arnal et al. (2015) study compared the cognitive functioning of subjects in an extended sleep group (~10 hrs sleep) versus a habitual sleep group (~8 hrs sleep), right after a sleep period through a non-sleep-deprived wake period . They found gains in sustained attention and alertness after six nights of extended sleep. The extended sleep group showed significantly faster reaction times

and less lapses in a psychomotor vigilance task (PVT) than the habitual sleep group. The results from this study showed benefits of sleep through several forms of neural processing, including insight formation, novel-language perception, visual discrimination, and motor skills (Ellenbogen, 2005).

Sleep is especially necessary for the athlete. Research suggests that those who are physically active require more rest and recovery, yet numerous studies show collegiate student-athletes getting less sleep than their non-athletic peers (Baekeland & Lasky, 1966; Horne, 1981). There are several underlying causes for this lack of sleep. For one, studies suggest that for student-athletes, time limitations and irregular daily schedules cause sleep deprivation to be a significant source of stress (Humphrey et al., 2000; Wilson & Pritchard, 2005). Habitual daily activities, such as sleeping and waking time, eating times, work schedule, class schedule, exercise times, and social activities, all have important implications for regular sleep patterns (Carney, Edinger, Meyer, Lindman, & Istre, 2009). Time constraints, posed by the demands of classes, practices, and competitions, can predispose collegiate student athletes to disruptive daily routines, compromising quality and quantity of sleep. The daily variability of a student-athlete's schedule becomes a sleep disturbance in itself. Over time, sleep disturbances are related to increased risk of work and school absenteeism, accidents, and significant decrements in vitality, social functioning, physical and mental health, and overall quality of life (Lund, Reider, Whiting, & Prichard, 2010).

Not only are collegiate student-athletes subject to poorer sleep habits due to time limitations, but environmental stressors also add to sleep difficulties. In their study, Lund et al. found that stress is one of the biggest predictors of poor sleep quality (Lund et al., 2010). Poor patterns of sleep can then lead to greater stress and psychosocial dysfunction, which can cause

even greater sleep deprivation. In a study of 190 NCAA Division 1 student-athletes, short sleep duration, poor quality, and daytime fatigue were all associated with increased depression and anxiety, increased stress, and overall poor mental health (Meridew et al., 2017). In addition, other negative consequences of sleep deprivation include reduced cardiovascular performance, reaction time, cognitive ability, and emotional stability (Walters, 2002). Noting the ability to replenish daily physical and mental performance with optimal sleep, student-athletes should prioritize proper sleep. Yet, due to the stressful environment of athletics, student-athletes struggle to sleep enough to maintain their significant responsibilities.

Athletes and Counseling

Despite all the evidence regarding the potential psychosocial issues that athletes can experience, most simply do not seek appropriate help as often as they need. Mentink (2002) found athletes often treat emotional distress in a manner similar to the ways in which they deal with physical pain; that is, to simply "shake it off" and push through. Unfortunately, in the realm of athletics, which idolizes mental toughness, perseverance, and strength, there is a stigma attached to poor mental health, and athletes fear that coaches and administration may not be supportive of their struggles. This perception can lead to a lower likelihood that athletes will acknowledge mental health issues and seek appropriate care (Proctor & Boan-Lenzo, 2010; Wolanin, Gross, & Hong, 2015). In fact, a study investigating the reasons that intercollegiate student athletes under-utilize counseling services discovered that time constraints and social stigmatization are major components inhibiting help seeking behaviors (Lopez & Levy, 2013). The collegiate athletics enterprise should work toward reducing stigma related to mental health in order to encourage athletes to seek the help that many of them greatly need.

It may also be that student-athletes seek out an authority figure within their athletic social structure that they trust, and have a personal relationship. According to Velasco (2017), many student-athletes who find it difficult to ask for help, or access counseling services on their own, are often more inclined to seek support in the comfort of the athletic training room. The report cites the athletic trainer as a benefit, as they are a source of support and understand the collegiate athlete population well, due to working with them in such a unique way. I believe the student-athletes find comfort in the athletic training room because it is often a safe space; a place for student-athletes to admit to injuries and illnesses, and a place confide that things aren't going so well.

Regrettably, even when students reach out for help, the current practices in collegiate athletics that attempt to promote positive mental health are not always enough. In recent memory, Madison Holleran, a student-athlete on the track team at the University of Pennsylvania, committed suicide midway through her freshman year. Despite her positive "Penn Face" and facade of happiness on social media, Holleran had been struggling with the stress of a full academic load and attaining peak athletic performance. She even reached out to seek professional health to deal with her psychological burdens, but in the end, she did not alter her course. This tragedy, among others, has shed light on some of the unique challenges and pressures in the life of student-athletes, and revealed the necessity for the NCAA and other organizations to address mental health concerns among its student-athletes.

Supporting Collegiate Athletes

The National Athletic Training Association (NATA)

The NATA has traditionally promoted certain core values that attempt to prevent and address psychological issues in collegiate student-athletes. Two out of the eight *Athletic Training Education Competencies* (2011), "Psychosocial Strategies and Referral" and "Prevention and Health Promotion" are direct attempts to address mental health and the importance of preventative medicine. Within the "Prevention and Health Promotion" domain of the *NATA Education Competencies*, it states that in order to maintain the wellness of their patient, ATs must "develop and implement strategies and programs to prevent the incidence and/or severity of injuries and illnesses and optimize their client's/patient's overall health and quality of life." (NATA, 2011, p. 13). The "Psychosocial Strategies and Referral" element states an AT should:

> Select and integrate appropriate psychosocial techniques into a patient's treatment or rehabilitation program to enhance rehabilitation adherence, return to play, and overall outcomes. This includes, but is not limited to, verbal motivation, goal setting, imagery, pain management, self-talk, and/or relaxation. (NATA, 2011, p. 33)

Additionally, the first principle of the National Athletic Trainer's Association *Code of Ethics* (1995) highlights the importance of well-being, stating that a member's duty to the patient is of first concern, and members are obligated to place the welfare and long-term well-being of their patient/athlete first. The NATA *Code of Ethics* (1995) addresses well-being in another principle which states its members should not engage in conduct which may create a professional conflict of interest, or which jeopardizes a patient's health and well-being. Moreover, the NATA has also implemented active measures, on top of its core values, to further address student-athlete mental wellness and promote well-being.

In 2013, the NATA sponsored an "Inter-Association Consensus Statement", which recommends the development of a plan of action to respond to psychosocial concerns for collegiate student-athletes (Neal et al., 2013). Direct psychological care to the student-athlete is outside the scope of practice for the certified athletic trainer, so instead, the Consensus urges that ATs must develop a plan to recognize mental health disorders and refer student athletes of concern. The NATA proposes guidelines to assist athletic trainers' creation of a student-athlete recognition and referral plan within their athletics departments, while encouraging collaboration with university departments such as counseling services or student health services to better assist student-athlete's needs (Neal et al., 2013). The NATA, however, is not be the only organization to take a stand in this matter.

NCAA

Brian Hainline, the NCAA chief medical officer, recognized mental health as a high priority health issue for student-athletes, noting that the improper management of mental health leads to poor athletic and academic performance, while enhancing the risk of life-threatening emergencies (Burnsed, 2013). In fact, he has recently indicated expectations that the association should take a leadership role in altering the "pathetic way" our nation handles mental health (New, 2016). Starting this movement in 2013, the NCAA formed a mental health task force to address the concerns of student-athletes, coaches, clinicians, policy experts, and team physicians. According to the NCAA, breaking barriers to accessing mental health treatment is of utmost concern to the task force (Burnsed, 2013). As such, the NCAA wants to prioritize the education of the full athletic organization: ATCs, physicians, athletic directors, and coaches, so that they have the capacity to recognize both mental health aspects of sports participation as well as

physical health issues. A group of multidisciplinary professionals then convened for three days to address the numerous mental health issues arising amongst collegiate student-athletes.

The NCAA's mental health task force deemed that leading coaches and athletics staff towards understanding the link between mental health problems and poor athletic, school and social performance was integral to their mission of promoting well-being and the success of student-athletes (Burnsed, 2013). In order to achieve this mission, many participants of the convention began writing excerpts for the creation of the book *Mind, Body, and Sport: Understanding and Supporting Student-Athlete Mental Wellness*, which through various perspectives in athletics, brought significant attention to the pressures, stresses, and risk factors of collegiate athletes. Shortly after *Mind, Body, and Sport*, the NCAA drafted *Mental Health Best Practices*. This is a document of practical applications for collegiate institutions that draws conclusions from essential topics within the book *Mind, Body, and Sport*. The multi-disciplinary committee decided upon identifying the following as key components for understanding and supporting collegiate student-athlete mental wellness.

First, through "Clinical Licensure of Practitioners Providing Mental Health Care" the NCAA recommends clear documentation and communication of referral procedures to qualified practitioners (NCAA, 2016, p.7). The NCAA suggests that athletic trainers and team physicians should coordinate the early stages of evaluation and treatment of at-risk student-athletes, and that licensed healthcare professionals such as clinical psychologists, counselors, or psychiatrists must be active in providing more advanced mental health care, such as formal evaluations and treatments, if necessary (NCAA, 2016). The NCAA also recommends that advanced providers have training specifically for treating athletes, due to the unique culture and environment of

athletics, as well increasing accessibility to the student-athlete for self-referrals due to the stigma previously discussed in this paper (NCAA, 2016).

The second key element of the NCAA's best practice application for mental health recognizes the importance of "Procedures for Identification and Referral of Student-Athletes to Qualified Practitioners" (NCAA, 2016, p.10). The NCAA encourages athletic departments to create clear and concise emergency action plans to respond to potential thoughts of suicide and episodes of psychosis, as well creating routine mental health referral processes for non-urgent mental health concerns. As part of the referral process, the NCAA suggests identifying a point person within the athletics community, such as an athletic trainer, to be responsible for facilitating emergency and routine referrals (NCAA, 2016). However, depending on the nature of each athlete's relationships within the department, some staff, including administrators or other non-clinical members, may potentially be in a better position to notice and report concerns about a student's well-being. It is therefore important that each member of an athletic institution, regardless of the nature of position, should have proper education in the referral process. The NCAA recommends that non-clinical employees then communicate their concerns for a student-athletes' mental health through institutionally designated communication channels that are similar to those used for injuries and illnesses, which is typically through the athletic trainer.

As a proactive approach to preventing decline in a student-athletes' mental health, the NCAA promotes "Pre-Participation Mental Health Screening" (NCAA, 2016, p.13), as well as instituting a protocol for referral as the screening results may require. The National Athletic Trainers' Association suggests using the *Patient Health Questionnaire* (PHQ-9). The PHQ is a self-survey of the "Primary Care Evaluation of Mental Disorders". It is considered a diagnostic instrument for depression and is scored based on the nine diagnostic criteria for major

depression *in Diagnostic and Statistical Manual Fourth Edition* (Williams, 2014). The nine items assess positive and negative emotion, sleep patterns, energy levels, appetite, feeling of failure, concentration, speaking slowly or being fidgety, and having thoughts of self-harm or suicide in the previous 2 weeks (Williams, 2014). The questionnaire can help identify signs and symptoms of mental health status, and encourage an athlete to follow-up with a primary athletics health care provider for further evaluation, or to determine a referral plan for future treatment.

Lastly, the NCAA recommends athletics department create "Health-Promoting Environments that Support Mental Well-Being and Resilience" (NCAA, 2016, p.14). This includes incorporating mental health education on the topics of self-care, stress management, proper sleep, peer interventions, and identifying symptoms of mental disorders to coaches as well as student-athletes. The NCAA believes by promoting a stigma-free environment through normalizing help-seeking behavior, athletes can foster experiences and interactions leading to personal growth, self-acceptance, autonomy, and positive relationships. In order to maintain this positive and supportive environment, the NCAA suggests that health care providers in athletics meet with licensed mental health practitioners annually to evaluate protocols and ensure effectiveness.

The NCAA then recommends communicating the information to the coaches and student-athletes regularly to assist in creating cultural awareness, diminishing stigma, and promoting an environment that embraces help-seeking and self-care behaviors. The hope is that in turn, athlete well-being and resilience will be enhanced. In accordance with creating a cultural shift to a more positive and supportive environment for student-athlete mental well-being, the NCAA advises that "coaches should be knowledgeable of the importance of attentiveness and empathy in their interactions with student-athletes who are facing mental health challenges" (NCAA, 2016, p. 15).

It is also important to clarify that the coach's role is not to manage the mental health situation themselves and instead should follow the referral process as outlined by their institution's health care professionals (NCAA, 2016).

Relationships with Coaches

While treating mental health concerns is also outside the scope of coaches, as well as athletic trainers, it is worth exploring the role coaches do play in affecting student-athlete well-being. Prior to choosing which college to attend, a high school athlete will participate in the recruiting process. During this time, the potential candidate visits multiple schools and meets with their respective coaches. Although many factors affect the school selection, such as culture, scholarship, location, amenities, and starting/playing potential, the athlete's perception of a coach is crucial, as the decision to attend a college is largely associated with their impression of the coach (Gabert, Hale, & Montalvo, 1999). The dyadic relationship between an athlete and their coach becomes essential to the student-athlete's future successes, as the coach is perhaps the single most influential individual in the career of a collegiate student-athlete (Ayer, 2015).

Greenleaf, Gould, and Dieffenbach (2001) conducted interviews with elite athletes and found the athlete-coach dyadic relationship has significant potential to positively influence an athlete's performance, based on the perception of trust, friendship, and regular communicative contact (Greenleaf et al., 2001). Additionally, coaches' supportive behavior, such as building coach-athlete compatibility, which is the degree of alignment between coach/athlete goals, personality, and beliefs, can have protective effects on the athletes. Research has demonstrated that strong relationships can act to reduce overall anxiety for the athlete (Williams et al., 2003). The culture that coaches and their staff create can also be a determinant of the psychological

well-being of athletes. A coach-supported inclusive team atmosphere has the potential to lower stress, especially for athletes with moderate anxiety (Hwang & Choi, 2016).

Coaches and their behavior play a significant role in creating a team culture, and this environment determines the quality of student athletes' experience and their levels of success (Feltz, Short, & Sullivan, 2008; Williams et al., 2003). However, as coaching behaviors directly affect student-athletes' attitudes, much of student-athlete well-being and experience, negative or positive, depends on the coach (Horn, 2008). A coach's style of teaching and leadership may potentially inhibit well-being, or even create a negative experience for the athlete. For example, athletes report that conflicts of power, poor instruction, and lack of a coach's focus on the team climate negatively impacted athletic performance (Greenleaf et al., 2001). This not only affects skill execution, but team morale as well. Various studies on the athlete-coach relationship, which focused on coaching styles, suggest that an emphasis on winning, autocratic leadership styles and lack of empathy predict burnout among athletes, (Vealey, Garner-Holman, Hayashi, & Giacobbi, 1998) while Baker, Côté, & Hawes (2000) find that negative rapport and certain competitive strategies, like inconsistent game day routines and exhibiting low confidence in athletes, predict increases in anxiety among athletes.

Moreover, the conflict of interest that a coach can face, between athlete welfare and extrinsic incentives for winning, may also negatively affect the student-athlete experience. While coaches may believe they are working in the best interest of the athletes, it is also important to note some coaches' careers and income depend on the performance of the team (Donnelly, 1997). Head coaches are often paid high salaries for their services, (Berkowitz et al., 2013) and often receive bonuses for winning conference or regional championships, or qualifying their organization for the national championships (Steinbach, 2009). While it may be

unintentional, coaches receive incentives to win that often conflict with their responsibility for student athlete health. Depending on the coach, some may play the role of nutritionist, physiologist, medical expert, counselor or psychologist, and present themselves as knowledgeable in these areas despite lacking specific expertise or education. This lack of knowledge and skill set is notable because a coach can potentially utilize their influence to persuade an athlete to train or compete through an illness or injury (Sterling & Kerr, 2009). Such a conflict of interest is unfortunate, but can realistically occur, making it difficult to place a coach at the core of providing support in an unbiased manner. Nevertheless, coaches can provide significant value in promoting positive well-being, within their professional aptitude**.** In addition to all the potentially encouraging roles previously mentioned, Gilbert, Gilbert, & Morawski (2007) suggest coaches can use positive language and attitude when addressing the team as a whole, inducing a supportive environment, and can also hone communication skills to reduce pressure and stress that student athletes feel both academically and athletically (Sullivan & Feltz, 2003).

It is true that the athlete-coach relationship is important and can lead to positive outcomes for the student-athlete with proper nurturing, but it is important for athletes to maintain trusting relationships with professionals in the sport environment whose livelihood is not dependent on their performance. It is for this reason that the athletic trainer is in the best position to be a focal point of promoting student athlete well-being through positive psychology. Tim Neal, chair of the 2013 NATA *Inter-Association Recommendations for Developing a Plan to Recognize and Refer Student-Athletes With Psychological Concerns at the Collegiate Level: An Executive Summary of a Consensus Statement,* and member of the NATA Committee on Professional Ethics judicial panel, stated in *Mind, Body, Sport* that:

> the athletic trainer holds a unique position in college sports. In addition to being charged with protecting student-athlete health and safety, the athletic trainer often is a friend and companion – sometimes even a confidant – for the hundreds of student-athletes in his or her care. (2014, p.111).

It is a combination of both the irreproachable priorities of the healthcare professional, and the deep, meaningful relationships with a large portion of the athlete population, which makes the athletic trainer the ideal candidate for implementing the fundamentals of positive psychology.

Leveraging the Athletic Trainer's Potential

At this point, the evidence clearly indicates a need for greater focus on preventative services towards the mental health of our athletes. Fortunately, athletic trainers are in an ideal position to positively influence student-athlete psychological health. Athletic trainers are typically among the closest members of an athlete's support system, as they have daily interactions on a personal and professional level, and can gain a good grasp of how athletes are doing from both a standpoint of health and well-being (Anderson & Parr, 2013). With the unique opportunity for daily observation and interaction, they might in fact be the most reliable personnel within an athletics department to whom student-athletes turn to for advice in times of crisis (Neal et al., 2013). As athletic trainers establish trusting, genuine, and empathetic relationships, their athletes often seek their opinions regarding topics other than injury prevention, injury rehabilitation, and nutrition (Misasi, Davis, Morin, & Stockman, 1996). In fact, athletes will often approach ATs with their personal issues in addition to their athletic injury issues (Moulton, Molstad, & Turner, 1997). As athletic trainers typically spend extended periods

of time with athletes under conditions that promote personal interaction and trust, they are professionally in an excellent position to provide psychosocial skills on a variety of issues.

Moreover, athletic training focuses on multiple aspects of healthcare, including preventative services, emergency care, clinical diagnosis, therapeutic intervention and rehabilitation of injuries and medical conditions (Athletic training education, n.d.). The wide range of responsibilities both increases the total interaction time with student-athletes, but also solidifies an image of the athletic trainer as a consistent provider of health and wellness. Due to their immersive role within a team, athletic trainers have important leverage to inform, educate, and assist athletes with not only the physical, but also the psychological aspects of sport participation. This ideal position to help athletes, in addition to the intent of the NCAA and NATA policies viewing ATs as an important point of contact, suggests that athletic trainers can and should play a large role in supporting student-athlete mental health and wellness. However, the current level of implementation is inadequate, as existing policies either provide insufficient education to prepare ATs for psychological work, or lack the clarity to allow for specific and assertive action.

Athletic trainers do have some of the highest quality interactions with athletes among the athletic department, and have the ideal relationship to respond to psychosocial issues. However, Moulton et al. (1997) found that many ATs perceived student-athletes to rely on them for counseling beyond the responsibilities of their job, yet they did not feel qualified to advise athletes on topics outside physical health. Additionally, Clement, Granquist, & Arvinen-Barrow (2013) found that most ATs report lacking confidence and readiness to address the psychosocial aspects of athletic injury. This indication of uncertainty is disparate with the aforementioned expectations of the *NATA Educational Competencies*, which states that ATs must be able to

"develop and implement strategies and programs to prevent the...severity of injuries and illnesses and optimize...overall health and quality of life." (NATA, 2011, p. 13) as well as "select and integrate appropriate psychosocial techniques...to enhance rehabilitation...and overall outcomes" (NATA, 2011, p. 33). If the NATA values these educational competencies so highly, and yet athletic trainers do not feel comfortable fulfilling the role that the competencies assign to them, then there is clearly some aspect of the actual educational process that is inconsistent.

Furthermore, some core statements on policy regarding psychosocial health lack the appropriate clarity to allow for any effective implementation, even if the education does meet necessary job expectations. Reviewing the two aforementioned principles of the National Athletic Trainer's Association *Code of Ethics* (1995), the first NATA policy of interest states that a member's duty to the patient is of first concern, and members are obligated to place the welfare and long-term well-being of their patient/athlete first. The other policy of interest states that its members should not engage in conduct which may create a professional conflict of interest, or which jeopardizes a patient's health and well-being. Upon deeper analysis, the first principle lacks any clarification on the meaning of, or the action to take, in regards to the term well-being. The other policy in the *Code of Ethics* conveys well-being as an external constraint to avoid harming, rather than an intrinsic and inherent push towards using our skills to help others flourish (Vella-Broderick, 2014). Looking further, most of the NCAA and NATA proposals for action and education are reactive approaches, after stressors, injuries or illnesses have already compromised an athlete's well-being. As health care professionals, whose *Code of Ethics* and *Educational Competencies* promote health and wellness, we cannot propose to effectively protect student-athlete well-being and instill values of positive health without a clear

plan of action that takes steps to create proactive promotion of positive health instead of avoidance of the negative.

Basics of Positive Interventions and their Efficacy for the Athletic Trainer

According to the NATA, athletic trainers are healthcare professionals whose goal is to prevent injury and illness, and promote health and wellness. Currently, the typical healthcare worker will have considerably greater knowledge in the treatment injuries or illnesses than they have in the promotion of well-being (Slade, 2010). If ATs must handle the task of promoting well-being, then it will be necessary to introduce better education and treatment protocols, in order to redress the limitations in their expertise. As previously stated, many athletic trainers feel unqualified to address student-athlete psychological issues, but reports show that they are willing and ready to learn. To satisfy this need, I propose that the NATA adopts evidence-based constructs of positive psychology into the Educational Competencies, and provides clearer definitions of well-being in the *Code of Ethics*, through Seligman's (2011) theory of PERMA. The emerging theme from a decade of positive psychology research is that well-being, as defined by PERMA, predicts fewer depressive symptoms, higher achievement, and better positive health (Seligman, 2008). Considering the troubling state of mental health treatment in athletics, promoting mental wellness may be the best tool available to combat mental disorder (Seligman, 2008). Therefore, it is my hope that, through these proposed actions, the NATA will be better able to support the ameliorating potential of the athletic trainer in promoting the well-being of their student-athletes.

Under the regulations of the NATA, it is outside the AT's scope of practice to diagnose or treat mental illnesses. Therefore, to recognize signs and symptoms of potential mental health concerns, the NATA provides guidelines to athletic trainers that involve monitoring several risk factors, such as student-athlete behavior (Neal et al., 2013). As some student-athletes may not fully understand the potential dangers of psychological disorder, ATs should monitor any non-verbal cues, such as acting out in a manner unfitting to the normal personality or behaviors of that particular student athlete. Neal et al., (2013) identify the following behavioral signs and symptoms as potential indications to refer a student to a mental health professional:

- changes in eating and sleeping habits;
- unexplained weight loss or gain;
- drug or alcohol abuse;
- withdrawing from social contact;
- decreased interest in activities that have been enjoyable or taking up risky behavior;
- frequent complaints of fatigue, illness, or being injured that prevent participation;
- negative self-talk feeling out of control;
- mood swings;
- excessive worry or fear;
- gastrointestinal complaints, headaches;
- overuse injuries, unresolved injuries, or continually being injured (p. 717).

It is once again important for ATs to recognize it is outside of the scope of practice to try to treat student-athlete psychological concerns, and referring at-risk individuals to a licensed professional is an essential component of the athletic trainer's responsibility to their athletes.

However, it still remains that the athletic trainer has "an ethical obligation to maximize the well-being of the athlete" (Courson et al., 2014, p. 4). In this regard, the implementation of positive psychology interventions can be a potentially useful tool to athletic trainers for preventative mental health care, while still adhering to the NATA regulations of referring psychological illness to qualified and licensed professionals. According to positive psychology's

leading philosopher, James Pawelski, a positive intervention is a technique; an intentional activity to promote well-being by developing weaknesses and polishing strengths to achieve personal satisfaction with choices in one's life (Pawelski, n.d.). They are proactive, versatile, accessible, non-stigmatizing tools that can help reduce the prevalence of mental illness (Bolier et al., 2013; Sin & Lyubomirsky, 2009). A study by Seligman, Steen, Park, & Peterson (2005) showed that certain positive interventions led to greater happiness and reduced depressive symptoms compared to a control group, up to 6 months after the implementation. Additionally, other studies and literature reviews have shown that various positive interventions can decrease depressive symptoms and are negatively correlated with anxiety, aggression, and psychological distress (Bao & Lyubomirsky, 2014; Gilman, Dooley, & Florell, 2006; Park, Peterson, & Seligman, 2004; Sin & Lyubomirsky, 2009).

Furthermore, positive psychology interventions are more than tools to attenuate negative psychological states. They are effective in the pursuit of positive well-being and positive health as well. Meta-analytic studies of positive interventions validate the application of conscious effort towards the pursuit of well-being: positive interventions can improve subjective well-being, generate more frequent positive emotions, and buffer against stress and negativity during times of difficulty. (Bao & Lyubomirsky, 2014; Bolier et al., 2013, Duckworth, Steen, & Seligman, 2005; Sin & Lyubomirsky, 2009). They can help alleviate psychopathology, but also are valuable in helping mentally healthy people to flourish (Pawelski, 2009). As well-being and ill-being are substantive opposites, by focusing on building mental wellness through elements of positive psychology, such as optimism, character strengths and cultivating meaning, the negative emotions accompanying daily stressors of life might contribute less to an individual's ill-being (Pawelski, 2013).

An essential consideration for positive interventions is that they require conscious, deliberate action in the pursuit of positive habits. With intentional action, interventions can cultivate desirable habits, which then free one's attention to refocus on new positive goals, facilitating a feedback loop. However, if done without conscious intent, actions might interfere with goal achievement (Shusterman, 2006). If what father of American psychology William James proposes is true - that habitual, reflexive activity can diminish the conscious attention with which we perform actions - then unfocused action might unintentionally create even greater deviations in our virtues, placing ourselves farther out of equilibrium and happiness. Habits are a result of repetitive actions, and we should therefore seek to become consciously aware of both our positive and negative habitual actions of everyday life (James, 1892/1984).

Deliberate action is one of the cornerstones of positive interventions, and modifies not only habits, but also well-being as a consequence. With proper focus, positive interventions allow for deliberate, volitional actions to enhance positive emotions within our daily routines. Csizkszentmihayli (1990) postulates that people who exert energy to gain mastery over consciousness in their actions live happier lives. He also believes that through conscious action, we gain the ability to identify and direct specific motives and sensations, also improving our sense of well-being (Csikszentmihalyi, 1990/2002). In order to truly develop beneficial habits and greater well-being, people must learn to use positive interventions with deliberate and purposeful action. By focusing on specific goals and hopes through the development of good habits, despite their demanding environment, student-athletes may be able to learn to utilize positive intervention skills to improve their own mental health and well-being.

I propose we provide student-athletes with athletic trainers who have the necessary skill and education to do just that: to implement positive interventions supporting the development of

good behaviors into healthy habits, and thereby enhance well-being. As medical professionals with responsibilities in a variety of healthcare domains, athletic trainers have a wide scope of knowledge regarding best practices for health and well-being. Their minimum educational requirements expect them to have competency in the realms of nutrition, fitness, preventative services, emergency care, clinical diagnosis, therapeutic intervention, and rehabilitation of injuries and medical conditions (NATA, 2011). With such a vast array of healthcare skills, athletic trainers are in an excellent position to identify and reinforce positive habits that student-athletes are attempting to develop. Moreover, as previously mentioned, athletic trainers are among the most trusted people within the student-athlete's support system (Anderson & Parr, 2013; Neal et al., 2013; Misasi et al., 1996; Moulton et al., 1997). Due to this position of trust, it is possible that student-athletes will be more likely to embrace the ATs guidance as both credible and genuine, in supporting their own well-being and health.

Due to their relative simplicity of application and their efficacy, positive interventions are the ideal tool to support student-athlete well-being, and the health promoting and trustworthy nature of athletic trainers make them the ideal candidates to implement them. It is then worth reviewing some of the constructs of positive psychology to understand the basics of supporting the student-athlete, and so I have highlighted the ones that I believe will provide the greatest effects with the least amount of effort.

Resilience

A general definition of resilience is the ability to bounce back from adversity and to grow and thrive in the face of challenges (Carver, 1998; Tugade & Frederickson, 2004; Tugade, Fredrickson, & Barrett, 2004). According to Reivich and Shatte (2002), resilience is a vital

psychological component that can help protect individuals through the reduction of harmful effects of stress, by buffering against depression and anxiety, and by providing constructive ways to react to challenges and conflict. This skill can be of vital importance to the student-athlete, for, as previously discussed, the demanding environment of collegiate athletics can lead to poor psychological health. Building resilience in college athletes could prove beneficial for athletic and academic performance, leading to greater overall well-being.

The NCAA and NATA can utilize this construct of positive psychology fairly easily in the attempt to address the current mental health dilemma, because resilience is a way of thinking that can be taught and can be learned as a skill (Reivich & Shatté, 2002). It is known that self-regulation, optimism, skill mastery, relationships, and the self-awareness of body, mind, and emotion, all contribute to building resilience (K. Reivich & J. Saltzberg, private communication, February 12, 2017; Reivich & Shatté, 2002). If people are able to understand that they can learn and master these skills at any time, then with the appropriate practice, they can develop the resilience to endure and respond to a variety of environmental stressors in their life. Noting the close relationship of athletes and the athletic trainer, equipping ATs with resilience-building skills would enable them to support and educate their student-athletes, helping them overcome the negative psychological impacts of their adversity.

Promoting mental wellness through resilience training might also positively influence the student-athlete's performance, as some of the resilience skills are derivative of cognitive therapy. One such skill is the ABC model. The ABC model is perhaps the most useful method of building resilience skills (Reivich & Shatté, 2002). It consists of identifying the **A**ctivating event, (triggering event), the **B**elief (self-talk), and the resulting **C**onsequence (physical, mental, and emotional health effects) of a relevant experience (Reivich & Shatte, 2002). This technique

is useful tool to practice identifying counterproductive cognitive patterns, and redirecting thought and action towards a more desirable outcome. Athletes can derive just as much benefit in training and perfecting mental skills as they do physical skills (G. Park, personal communication, March 6, 2017). Building resilience in college athletes through their daily AT interactions could prove beneficial, capitalizing on the close relationship of the student-athlete and trainer during times of adversity.

Self-Awareness through Character Strengths

In 2004, Peterson and Seligman created The Values in Action (VIA) system, which classifies strengths using a common language of personality traits inherent to every human being. It contains 24 character strengths that fall under six broad virtue categories: wisdom, courage, humanity, justice, temperance and transcendence (Peterson & Seligman, 2004). This system can be useful in cultivating positive outcomes such as positive relationships, achievement, and well-being (R. Niemiec, personal communication, January 15, 2017). Research suggests that people who frequently use their signature strengths ultimately make more progress on their goals, have higher overall well-being, and are more likely to meet basic psychological needs of autonomy, relatedness, and competence (Linley, Nielsen, Gillet, & Biswas-Diener, 2010; Deci & Ryan, 2000).

Student athletes can potentially derive benefit from the Values in Action system, through the implementation of tools like the VIA survey. This survey assesses character strengths and then helps athletes use their strengths to set goals towards desired performance outcomes in injury recovery, optimizing performance, or any other domain in which they seek positive change. For example, a student-athlete's strength may be curiosity; so explaining the details of

the inflammation process after an injury may engage the athlete, and help him better understand and cope with the setback. Seligman (2002) shares that for people to make sense of their lives, they need a sense of certainty and self-understanding, through the emphasis of character strengths. Therefore, inviting students to use their character strengths in new and different ways can lead to significant increases in their happiness and decreases in depression over a period that may last six months or more (Seligman et al., 2005).

The "Aware, Explore, Apply" model of VIA can also help athletes to discover their own character strengths, by identifying daily activities that employ those strengths, and how each strength can be applied in new ways (Niemiec, 2009). The first phase, awareness, involves acquiring the language of strengths, and understanding which strengths are greater in one's self. This phase of the process answers the question, "What are my strengths?" and begins to answer the question, "What strength was I just using?" The second phase, exploring, is when one connects their character strength in a deeper way to their past and current life experiences. It initiates introspection of who they truly are and what their strengths can do for them. This step involves self-reflection, pondering, and journaling, as well as interpersonal discussion and co-exploration (Niemiec, 2009). Exploratory questions, such as, "How do the results fit for you? Do you feel these are the core of who you are?", and "upon reflection, do these strengths give you energy when you practice them?", can improve the self-reflective process.

Third in the "Aware, Explore, Apply" model is application. This step involves deliberate use of strengths in daily life, and can be considered the action phase (Niemiec, 2009). The individual moves from reflecting and thinking to purposefully implementing character strengths. The person should ask, "Which strength am I interested in applying in my daily life?" (exploration), while also working to create a strengths action plan (application) (Niemiec, 2009).

Using strengths to navigate difficulties can be useful for student-athletes, through the identification of their positive attributes that can resolve problems and stressful events. Additionally, in creating positive experiences, they might focus on certain strengths that bring more joy into their life or that help them set goals that align with the kind of person they want to be.

Self- awareness through Attention and Mindfulness

Mindfulness can also be a useful tool for athletes to develop the self-awareness necessary to positively modify thought and habit processes. Mindfulness is the conscious observation of one's physical, mental, and emotional experiences in the present moment. It requires paying attention to one's own thoughts, actions, emotions and bodily feelings without judgment (Holzel et al., 2011). Creating habitual mindfulness leads to better mental health, including decreases in anxiety and depression (Holzel et al., 2011). Most mindfulness intervention programs focus on coping and acceptance of the negative such as anxiety, depression, stress, and insomnia, while mindful attention and attitude enable individuals to respond appropriately to challenges in life, instead giving in to negative impulses (Phang, Mukhtar, Ibrahim, Keng, & Sidik, 2015). Mindfulness has the potential to lower the perception of stress and stress symptoms, and improve ability to cope with daily stressors.

Intention, attention, and attitude are the three core components of mindfulness (Niemiec & Lissing, 2016; Shapiro & Carlson, 2009). This suggests that, like habit formation and strengths application, mindfulness meditation can help each individual to cultivate desired results, through positive attitude and attention to a specific intentional outcome. Studies of mindfulness training

show that focusing on positive mindfulness outcomes, such relationships, self-regulation, attention, self-compassion, self-efficacy, and self-awareness, all tended to be more successful in attaining the focus of their intent (Niemiec & Lissing, 2016). Through practicing meditation, people also may learn to become attuned to internal moment-to-moment experiences. Evidence shows that mindfulness meditation can create greater awareness of curiosity, kindness, and acceptance in thought, and can bring about improvements in positive variables such as positive affect, cognitive functioning, self-regulation, positive reappraisal of thoughts and improved personal interactions (Niemiec & Lissing, 2016). The practice of mindfulness meditation may then be useful to student-athletes, enabling them to focus their attention on conscious self-awareness and goal-setting, and avoiding negative and unhelpful habitual responses (Holzel et al, 2011).

Self-Regulation

Arguably, the most important construct for successful positive interventions is the highly adaptive trait of self-regulation. Self-regulation allows people to override and change their responses to specific circumstances, through the ability to control their thoughts, feelings, impulses, appetite, and task performances (Baumeister, Gailliot, DeWall, & Oaten, 2006). Having a functional self-regulatory process means an individual believes their emotions are modifiable, while possessing the consciousness to monitor moods and emotions accurately. Another facet of self-regulation is not only the ability to identify one's emotions, but the willingness and capacity to express those emotions (Reivich, Seligman, & McBride, 2011). This is important in the process of destigmatizing mental illness, as it helps create the association that negative emotions and help-seeking are not weaknesses, but rather strengths in the process of

remaining resilient to environmental stressors. The attainment of self-regulation, and thereby the ability to identify and regulate moods and emotions during stressful situations, is essential to success and well-being across all populations. The potential benefits of self-regulation for positive psychology are limitless, and are inherent to nearly every mode of positive intervention.

Self-Efficacy

Self-efficacy is a person's belief in their capacity to attain behaviors necessary to produce specific performance goals, and is an important ingredient in building resilience (Bandura, 1977, 1982, 2006; Maddux, 2012). Resilient people understand their strengths and weaknesses, and through application of their strengths towards self-awareness, they also strengthen self-efficacy beliefs (Govindji & Linley, 2007). Self-efficacy is not a personality trait, but rather a type of attitude with which one approaches challenges. This attitude uses past experiences and knowledge to formulate new beliefs regarding future possibilities that we can achieve through our thoughts, behaviors, and actions. It is crucial to the success of positive interventions, as it reinforces a person's belief they can accomplish any behavioral change with the use of their skills.

Self-efficacy helps influence the integration of positive interventions that promote healthy behaviors, attenuate unhealthy behaviors, and maintain favorable adaptations, even when self-regulation is depleted (Maddux, 2012). Without self-efficacy, student-athletes may lack the belief that they are capable of changing their own behaviors, and therefore might not even try to attain their goals (Maddux, 2012). Self-efficacy is an important ingredient in building resilience in athletes, as it supports the belief that they can control the actions, thoughts and behaviors necessary to produce specific performance goals (Bandura, 1977, 1982, 2006; Maddux, 2012).

Emotional Intelligence & Hope

Emotional intelligence is the ability to accurately identify emotions in yourself and others, as well as use emotional reasoning, understand emotional language, and manage responses to your own emotions as well as the emotions of others (Caruso, Salovey, Brackett & Mayer 2015). Through emotional intelligence, it may be that a person has some measure of self-awareness regarding the interaction between their thoughts and feelings, and modify their responses for more positive outcomes (Slaski & Cartwright, 2003). In fact, meta-analytic studies demonstrate emotional intelligence is associated with enhanced performance, well-being, and stress management (Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007; Van Rooy & Viswesvaran, 2004).

Hope is a positive state of being that allows individuals the capacity to change themselves into whomever or whatever they desire to become. Hope focuses action toward the pursuit of purposeful life changes, and, as change occurs, hope increases the learning of agency and more effective goal-directed thinking (Magyar-Moe & Lopez, 2015). According to Snyder, (2002), hope is reflective of an individual's perceptions of their own capabilities to (a) clearly conceptualize goals; (b) cultivate the detailed plan to reach those goals; and (c) initiate and sustain the motivation while using the plan. Research has shown that maintaining high levels of hope towards life changes lead to attainment of more difficult goals, such as receiving a master's degree, while lower level hopes lead to more easily attainable goals, like finding a good parking spot (Magyar-Moe & Lopez, 2015).

Emotional intelligence and hope can play an important role in student-athlete coping mechanisms. Student-athletes can benefit from emotional intelligence by learning to use their

emotions to facilitate cognition, as well as motivate themselves to change their behavior (Caruso et al., 2015). Moreover, hope is a facet of emotional intelligence that a student may learn to identify, and therefore, modify. Hope is an essential tool to protect student-athlete wellness. It broadens an athlete's coping skills, allowing them to approach their problems rationally and effectively, and perceive a potentially stressful event as a challenge rather than as a threat (Lopez & Snyder, 2003).

FUTURE DIRECTIONS FOR POSITIVE PSYCHOLOGY IN THE NATA

In order for the profession of athletic training to authentically serve within its *Educational Competencies* and *Code of Ethics*, I believe the NATA must make changes within the educational curriculum to include evidence based positive psychology. As this paper submits, positive psychology is an effective, proactive approach to support psychological well-being that fits within the athletic trainer's scope of practice, and is relatively simple to learn and implement. Therefore, I propose that the NATA should make short-term policy adjustments incentivizing immediate positive psychology skill-acquisition for as many active ATs as possible, and then begin to make long-term policy adjustments to introduce more concrete measures of educating and preparing athletic trainers for effective positive psychology intervention.

Although positive psychology may be one of the best tools for supporting psychological well-being in collegiate athletics, due to the current size of the positive psychology program, it may be some time before the NATA can institute broad, sweeping changes to their policies and educational requirements. The NATA must initiate short-term solutions to support athletic trainers and student-athletes, until the growth of the positive psychology field can match and sustain the high demand of aspiring athletic trainers at institutions of higher education.

As a beginning, currently practicing certified athletic trainers can attend CEU opportunities to learn constructs in positive psychology and practice the application of positive psychology interventions. In order to maximize the efficacy of this policy, I propose that the NATABOC incentivizes enrollment to relevant positive psychology CEUS and certificates. One potential incentive could be partially waiving membership fees for any AT who gains a positive psychology certificate, or a certain amount of PP-relevant CEUs. While this implementation does not provide the full scope of positive psychology that a full collegiate curriculum does, it will be a necessary intermediate step. It will provide a system to spread positive psychology on a basic level to as many athletic trainers as possible, creating a temporary method to support collegiate athletes while the NATA begins make larger changes to overall policy.

Additionally, while large changes to athletic training educational curriculum are still some time away, small changes that increase exposure and understanding of psychological healthcare can be immensely valuable in preparing the aspiring athletic trainer. I encourage the NATA to require additional clinical observation hours in psychiatry/psychology settings for exposure and experience in such issues. Learning to recognize signs and symptoms of an individual in mental distress, and how to implement a referral process, are important skills for future ATs. Personally witnessing a mental health professional navigate these tough situations could potentially benefit athletic training students, by preparing them to confidently approach the difficult conversations that may arise in their future practice working with student-athletes. This policy may provide some level of exposure to aspiring ATs, and give them a measure of preparation in psychological well-being, until the NATA can institute more concrete educational measures for future students.

As the field of positive psychology grows, and more educators become available within the field, the NATA will then be able to initiate more aggressive measures in teaching and implementing positive psychology. At this point, the Commission on the Accreditation of Athletic Training Education (CAATE) -approved institutions should implement changes in athletic training curriculum, to provide a full and thorough understanding of theory, constructs, and mechanisms of positive intervention. Positive psychology has a scientific base in empirical validations, satisfying the evidence-based approach the profession is aspiring to uphold. The curriculum will need base its education in practical application, as well as academic coursework. Students can learn by practicing positive psychology interventions on themselves and by applying them to classmates. In order to reach our full potential, we must educate and train aspiring athletic trainers in the constructs and skills that can help our athletes flourish. Through widespread policy and educational requirements, new generations of athletic trainers will leave school with full preparation to engage in positive psychology practices.

After a full educational curriculum is in place, the NATA can then begin to shift away from the prioritization of CEUs, and begin to mandate them instead. In order to hold current athletic training practitioners accountable, the NATABOC can require a certain amount of CEU's in the domain of positive psychology. With a degree program that incorporates elements of positive psychology, and a set structure that not only encourages, but requires ATs to continue their education in positive psychology, the field of athletic training will cultivate an environment for athletic flourishing.

This paper sheds light on the current environment of college athletics. While the NCAA and NATA are making various efforts to address the mental health issue arising in student-athletes, it will be the athletic trainers who have the potential to institute real change, and

positive psychology is the tool to enact that change. I hope this proposal piques the NATA's interest regarding the future of our profession, and necessary changes to how we act on its educational components and skills. Athletic training is an evolving healthcare profession, changing and adapting in the direction the research suggests. I hope to make a persuasive argument for the adoption of positive psychology in the future practice of athletic training.

References

Anderson, M. K., & Parr, G. P. (2013). *Foundations of athletic training: Prevention, assessment, and management*. Wolters Kluwer Health/Lippincott Williams & Wilkins.

Ahtiainen, J. P., Pakarinen, A., Alen, M., Kraemer, W. J., & Häkkinen, K. (2003). Muscle hypertrophy, hormonal adaptations and strength development during strength training in strength-trained and untrained men. *European Journal of Applied Physiology*, *89*(6), 555-563. DOI: 10.1007/s00421-003-0833-3

Andersen, M. B., & Williams, J. M. (1988). A model of stress and athletic injury: Prediction and prevention. *Journal of Sport and Exercise Psychology*, *10*(3), 294-306. DOI: 10.1123/jsep.10.3.294

Arnal, P. J., Sauvet, F., Leger, D., Van Beers, P., Bayon, V., Bougard, C., ... & Chennaoui, M. (2015). Benefits of sleep extension on sustained attention and sleep pressure before and during total sleep deprivation and recovery. *Sleep*, *38*(12), 1935-1943. DOI: 10.5665/sleep.5244

Asmundson, G. J., Fetzner, M. G., DeBoer, L. B., Powers, M. B., Otto, M. W., & Smits, J. A. (2013). Let's get physical: a contemporary review of the anxiolytic effects of exercise for anxiety and its disorders. *Depression and Anxiety*, *30*(4), 362-373. DOI:10.1002/da.22043

Athletic training education. (n.d.). Retrieved July 31, 2017, from NATA website: https://www.nata.org/about/athletic-training/education-overview

Ayer, N. (2015). Interpersonal Dynamics in Sport. *Illuminare: A Student Journal in Recreation, Parks, and Leisure Studies, 13(1),* 26-38.

Baekeland, F., & Lasky, R. (1966). Exercise and sleep patterns in college athletes. *Perceptual and Motor Skills*, *23*(3_suppl), 1203-1207. DOI: 10.2466%2Fpms.1966.23.3f.1203

Baker, J., Côté, J., & Hawes, R. (2000). The relationship between coaching behaviours and sport anxiety in athletes. *Journal of Science and Medicine in Sport*, *3*(2), 110-119. Retrieved from: https://proxy.library.upenn.edu:2077/10.1016/S1440-2440(00)80073-0

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191. DOI:10.1037/0033-295X.84.2.191

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, *37*(2), 122. DOI: 10.1037/0003-066X.37.2.122

Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds.). *Self-efficacy beliefs of adolescents*, (Vol. 5., pp. 307-337). Greenwich, CT: Information Age Publishing.

Bao, K. J., & Lyubomirsky, S. (2014). Making happiness last: Using the hedonic adaptation prevention model to extend the success of positive interventions. *The Wiley-Blackwell handbook of positive psychological inventions*, 373-384.

Baumeister, R. F., Gailliot, M., DeWall, N., & Oaten, M. (2006). Self-regulation and personality and how interventions increase regulatory success, and how depletion moderates the effects of traits on behavior. *Journal of Personality*, *74*(6), 1773-1797. http://dx.doi.org/10.1111/j.1467-6494.2006.00428

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychology Bulletin, 117*, 497-529. DOI:10.1037/0033-2909.117.3.497

Bass, S., Pearce, G., Bradney, M., Hendrich, E., Delmas, P. D., Harding, A., & Seeman, E. (1998). Exercise before puberty may confer residual benefits in bone density in adulthood: studies in active prepubertal and retired female gymnasts. *Journal of Bone and Mineral Research*, *13*(3), 500-507. DOI: 10.1359/jbmr.1998.13.3.500

Blair, S. N. (1993). Evidence for success of exercise in weight loss and control. *Annals of Internal Medicine*, *119*(7_Part_2), 702-706. DOI: 10.7326/0003-4819-119-7_Part_2-199310011-00015

Blair, S. N., Goodyear, N. N., Gibbons, L. W., & Cooper, K. H. (1984). Physical fitness and incidence of hypertension in healthy normotensive men and women. *The Journal of the American Medical Association*, *252*(4), 487-490. DOI: 10.1001/jama.1984.03350040017014

Bolier, L., Haverman, M., Westerhof, G. J., Riper, H., Smit, F., & Bohlmeijer, E. (2013). Positive psychology interventions: a meta-analysis of randomized controlled studies. *BMC Public Health*, *13*(1), 119. DOI: 10.1186/1471-2458-13-119

Brenner, J., & Swanik, K. (2007). High-risk drinking characteristics in collegiate athletes. *Journal of American College Health*, *56*(3), 267-272. DOI: 10.3200/JACH.56.3.267-272

Brenner, J. S. (2007). Overuse injuries, overtraining, and burnout in child and adolescent athletes. *Pediatrics*, *119*(6), 1242-1245. DOI: 10.1542/peds.2007-0887

Breslow, R. A., Ballard-Barbash, R., Munoz, K., & Graubard, B. I. (2001). Long-term recreational physical activity and breast cancer in the National Health and Nutrition Examination Survey I epidemiologic follow-up study. *Cancer Epidemiology and Prevention Biomarkers*, *10*(7), 805-808.

Brown, G.T. (Ed.). (2014). Mind, body and sport: Understanding and supporting student-athlete mental wellness. Indianapolis, IN: National Collegiate Athletic Association

Burnsed, B. (2013, November 26). NCAA mental health task force holds first meeting. Retrieved July 31, 2017, from http://www.ncaa.org/about/resources/media-center/news/ ncaa-mental-health-task-force-holds-first-meeting

Carney, C. E., Edinger, J. D., Meyer, B., Lindman, L., & Istre, T. (2009). Daily activities and sleep quality in college students. *Chronobiology International, 23*(3), 623-637. http://proxy.library.upenn.edu:2097/10.1080/07420520600650695

Caruso, D., Salovey, P., Brackett, M., & Mayer, J. D. (2015). The ability model of emotional intelligence. In S. Joseph (Ed.), *Positive psychology in practice: Promoting human flourishing in work, health, education, and everyday life (2nd ed.)* (pp. 545-558). Hoboken, NJ: Wiley.

Carver, S. C. (1998). Resilience and thriving: Issues, models, and linkages. *Journal of Social Issues, 54*(2), 245-266. doi: 10.1111/j.1540-4560.1998.tb01217.x

Clement, D., Granquist, M. D., & Arvinen-Barrow, M. M. (2013). Psychosocial aspects of athletic injuries as perceived by athletic trainers. *Journal of Athletic Training, 48*(4), 512.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*(2), 310-357. DOI: 10.1037/0033-2909.98.2.310

Cosh, S., & Tully, P. J. (2014). "All I have to do is pass": A discursive analysis of student athletes' talk about prioritising sport to the detriment of education to overcome stressors encountered in combining elite sport and tertiary education. *Psychology of Sport and Exercise, 15*(2), 180-189. DOI:10.1016/j.psychsport.2013.10.015

Cosh, S., & Tully, P. J. (2015). Stressors, coping, and support mechanisms for student athletes combining elite sport and tertiary education: Implications for practice. *The Sport Psychologist*, *29*(2), 120-133. DOI: 10.1123/tsp.2014-0102

Courson, R., Goldenberg, M., Adams, K. G., Anderson, S. A., Colgate, B., Cooper, L., ... & Klossner, D. (2014). Inter-association consensus statement on best practices for sports medicine management for secondary schools and colleges. *Journal of Athletic Training*, *49*(1), 128-137.

Cox, C. (2015). *Investigating the prevalence and risk-factors of depression symptoms among NCAA division I collegiate athletes* (Order No. 1592018). Available from ProQuest Dissertations & Theses Global. (1698487628). Retrieved from https://proxy.library.upenn.edu/login?url=https://search.proquest.com/docview/1698487628?accountid=14707.

Cuff, S., Loud, K., & O'Riordan, M. A. (2010). Overuse injuries in high school athletes. *Clinical Pediatrics*, *49*(8), 731-736. DOI:: 10.1177/0009922810363154

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York, NY: Harper Perennial

Csikszentmihalyi, M. (2002). *Flow: The classic work on how to achieve happiness*. Random House.

Dams-O'Connor, K., Martin, J. L., & Martens, M. P. (2007). Social norms and alcohol consumption among intercollegiate athletes: The role of athlete and nonathlete reference groups. *Addictive Behaviors*, *32*(11), 2657-2666. DOI:10.1016/j.addbeh.2007.04.030

Deci, E. L., & Ryan, R. M. (2000). The" what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227-268. DOI: 10.1207/S15327965PLI1104_01

Diener, E., & Seligman, M. E. P. (2002). Very happy people. *Psychological Science, 13*(1), 81-84. DOI: 10.1111%2F1467-9280.00415

Dimmeler, S., & Zeiher, A. M. (2003). Exercise and cardiovascular health. *Circulation, 107*(25). 3118-3120. DOI: 10.1161/01.CIR.0000074244.82874.A0

Dinas, P. C., Koutedakis, Y., & Flouris, A. D. (2011). Effects of exercise and physical activity on depression. *Irish Journal of Medical Science, 180*(2), 319-325. DOI: 10.1007/s11845-010-0633-9

Dolezal, B. A., & Potteiger, J. A. (1998). Concurrent resistance and endurance training influence basal metabolic rate in nondieting individuals. *Journal of Applied Physiology*, *85*(2), 695-700.

Donnelly, P. (1997). Child labour, sport labour: Applying child labour laws to sport. *International Review for the Sociology of Sport*, *32*(4), 389-406. DOI: 10.1177%2F101269097032004004

Duckworth, A.L., Steen, T.A. and Seligman, M.E.P., 2005. Positive psychology in clinical practice. *Annual Review of Clinical Psychology*, 1: 629–651. https://doi.org/10.1146/annurev.clinpsy.1.102803.144154

Eitzen, D. S. (2012). *Fair and foul : beyond the myths and paradoxes of sport*. Retrieved from https://proxy.library.upenn.edu:7976

Ekstrand, J., Hagglund, M., & Walden, M. (2010). Injury incidence and injury patterns in professional football: the UEFA injury study. *British Journal of Sports Medicine* doi:10.1136/bjsm.2009.060582

Ellenbogen, J. M. (2005). Cognitive benefits of sleep and their loss due to sleep deprivation. *Neurology, 64*(7), E25-E27. DOI: 10.1212/01.wnl.0000164850.68115.81

Emery, C. A. (2003). Risk factors for injury in child and adolescent sport: a systematic review of the literature. *Clinical Journal of Sport Medicine, 13*(4), 256-268.

Feltz, D. L., Short, S. E., & Sullivan, P. J. (2008). *Self-Efficacy in Sport*. Human Kinetics.

Fowler, J. H., & Christakis, N. A. (2008). Dynamic spread of happiness in a large social network: Longitudinal analysis over 20 years in the Framingham Heart Study. *British Medical Journal, 337*, a2338. DOI: 10.1136/bmj.a2338

Gabert, T. E., Hale, J. L., & Montalvo Jr, G. P. (1999). Differences in College Choice Factors among Freshmen Student-Athletes. *Journal of College Admission*, *164*, 20-29.

Gable, S. L., & Gosnell, C. L. (2011). The positive side of close relationships. In K. M. Sheldon, T. B. Kashdan, & M. F. Steger (Eds.), *Series in positive psychology: Designing positive psychology: Taking stock and moving forward* (Vol. 1, pp. 265-279). Oxford, UK: Oxford University Press.

Gayles, J. G., & Baker, A. R. (2015). Opportunities and Challenges for First-Year Student-Athletes Transitioning From High School to College. *New Directions for Student Leadership*, *2015*(147), 43-51. DOI: 10.1002/yd.20142

Gilbert, J. N., Gilbert, W., & Morawski, C. (2007). Coaching strategies for helping adolescent athletes cope with stress. *Journal of Physical Education, Recreation & Dance*, *78*(2), 13-24. DOI: 10.1080/07303084.2007.10597967

Gilman, R., Dooley, J., & Florell, D. (2006). Relative levels of hope and their relationship with academic and psychological indicators among adolescents. *Journal of Social and Clinical Psychology*, *25*(2), 166-178. DOI: 10.1521/jscp.2006.25.2.166

Gould, D., & Whitley, M. A. (2009). Sources and consequences of athletic burnout among college athletes. *Journal of Intercollegiate Sport*, *2*(1), 16-30. DOI: 10.1123/jis.2.1.16

Govindji, R., & Linley, P. A. (2007). Strengths use, self-concordance and well-being: Implications for strengths coaching and coaching psychologists. *International Coaching Psychology Review*, *2*(2), 143-153.

Greenleaf, C., Gould, D., & Dieffenbach, K. (2001). Factors influencing Olympic performance: interviews with Atlanta and Negano US Olympians. *Journal of Applied Sport Psychology*, *13*(2), 154-184. DOI: 10.1080/104132001753149874

Gutin, B., Barbeau, P., Owens, S., Lemmon, C. R., Bauman, M., Allison, J., ... & Litaker, M. S. (2002). Effects of exercise intensity on cardiovascular fitness, total body composition, and visceral adiposity of obese adolescents. *The American Journal of Clinical Nutrition*, *75*(5), 818-826.

Haidt, J., Seder, P., & Kesebir, S. (2008). Hive psychology, happiness, and public policy. *Journal of Legal Studies, 37(S2),* S133-S156. DOI: 10.1086/529447

Haidt, J. (2006). *The happiness hypothesis: Finding modern truth in ancient wisdom.* New York: Basic Books.

Holzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U. (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. *Perspectives on Psychological Science, 6*(6), 537 –559. doi: 10.1177/1745691611419671.

Horn, T. S. (2008). Coaching effectiveness in the sport domain. In T. S. Horn (Ed.), Advances in Sport Psychology (3rd ed., pp. 239-267) Champaign, IL: Human Kinetics

Horne, J. A. (1981). The effects of exercise upon sleep: a critical review. *Biological Psychology*, *12*(4), 241-290. DOI: 10.1016/0301-0511(81)90001-6

Huffman, L. T., 2014. "Examining Perceived Life Stress Factors among Intercollegiate Athletes: A Holistic Perspective." (Doctoral dissertation.) Accessed July 31, 2017. Retrieved from: http://trace.tennessee.edu/cgi/viewcontent.cgi?article=4081&context=utk_graddiss.

Humphrey, J. H., Yow, D. A., & Bowden W. W. (2000) Stress in college athletics: Causes, consequences, coping, Binghamton, NY: The Haworth Press.

Hwang, S., & Choi, Y. (2016). Data Mining in the Exploration of Stressors Among NCAA Student Athletes. *Psychological Reports*, *119*(3), 787-803. DOI: https://proxy.library.upenn.edu:2077/10.1177/0033294116674776

James, W. (1892/1984). *Principles of psychology: Briefer course*. Cambridge, MA: Harvard University Press.

Johnson, C., Powers, P. S., & Dick, R. (1999). Athletes and eating disorders: the National Collegiate Athletic Association study. *International Journal of Eating Disorders*, *26*(2), 179-188.

Johnston, L. H., & Carroll, D. (1998). The context of emotional responses to athletic injury: a qualitative analysis. *Journal of Sport Rehabilitation*, *7*(3), 206-220. DOI: 10.1123/jsr.7.3.206

Kamp, C. F., Sperlich, B., & Holmberg, H. C. (2014). Exercise reduces the symptoms of attention-deficit/hyperactivity disorder and improves social behaviour, motor skills,

strength and neuropsychological parameters. *Acta Paediatrica*, *103*(7), 709-714. DOI: 10.1111/apa.12628

Knapp, T. P., & Garrett, W. E. (1997). Stress fractures: general concepts. *Clinics in Sports Medicine*, *16*(2), 339-356. DOI: 10.1016/S0278-5919(05)70026-0

Knobloch, K., Yoon, U., & Vogt, P. M. (2008). Acute and overuse injuries correlated to hours of training in master running athletes. *Foot & Ankle International*, *29*(7), 671-676. DOI:10.3113/FAI.2008.0671

Knowler, W. C., Barrett-Connor, E., Fowler, S. E., Richard, F., Hamman, R. F., Lachin, J. M., ... & Nathan, D. M. (2002). For the Diabetes Prevention Program Research Group: Reduction in the incidence of Type 2 diabetes with lifestyle intervention or metformin. *New England Journal of Medicine, 346,* 393-403. DOI: 10.1056/NEJMoa012512

Kohl 3rd, H. W. (2001). Physical activity and cardiovascular disease: evidence for a dose response. *Medicine and Science in Sports and Exercise*, *33*(6 Suppl), S472-83. DOI: 10.1097/00005768-200106001-00017

Kroshus, E. (2016). Variability in Institutional Screening Practices Related to Collegiate Student-Athlete Mental Health. *Journal of Athletic Training*, *51*(5), 389–397. http://doi.org/10.4085/1062-6050-51.5.07

Lanning, W. (1982). The privileged few: Special counseling needs of athletes. *Journal of Sport Psychology*, *4*(1), 19-23. DOI: 10.1123/jsp.4.1.19

Lazarus, R. S. (2000). How emotions influence performance in competitive sports. *The Sport Psychologist, 14*(3), 229-252. DOI: 10.1123/tsp.14.3.229

Linke, S. E., & Ussher, M. (2015). Exercise-based treatments for substance use disorders: evidence, theory, and practicality. *The American Journal of Drug and Alcohol Abuse, 41*(1), 7-15. DOI: 10.3109/00952990.2014.976708

Linley, P. A., Nielsen, K. M., Gillett, R., & Biswas-Diener, R. (2010). Using signature strengths in pursuit of goals: Effects on goal progress, need satisfaction, and well-being, and implications for coaching psychologists. *International Coaching Psychology Review, 5*(1), 6-15.

Lopez, R. L., & Levy, J. J. (2013). Student athletes' perceived barriers to and preferences for seeking counseling. *Journal of College Counseling, 16*(1), 19-31. DOI: 10.1002/j.2161-1882.2013.00024.x

Lopez, S. J., & Snyder, C. R. (Eds.). (2003). Positive psychological assessment: A handbook of models and measures.

Lund, H. G., Reider, B. D., Whiting, A. B., & Prichard, J. R. (2010). Sleep patterns and predictors of disturbed sleep in a large population of college students. *Journal of Adolescent Health, 46*(2), 124-132. DOI: 10.1016/j.jadohealth.2009.06.016

Maddux, J.E. (2012). Self-efficacy: The power of believing you can. *The Oxford Handbook of Positive Psychology* (2nd ed.) (pp. 335-343). New York: Oxford University Press.

Magyar-Moe, J. L., & Lopez, S. J. (2015). Strategies for accentuating hope. In *Positive Psychology in Practice*.

Martens, M. P., Dams-O'Connor, K., & Beck, N. C. (2006). A systematic review of college student-athlete drinking: Prevalence rates, sport-related factors, and interventions. *Journal of Substance Abuse Treatment, 31*(3), 305-316. DOI:10.1016/j.jsat.2006.05.004

Martens, M. P., Labrie, J. W., Hummer, J. F., & Pedersen, E. R. (2008). Understanding sport-related drinking motives in college athletes: Psychometric analyses of the Athlete Drinking Scale. *Addictive Behaviors*, *33*(7), 974-977. DOI:10.1016/j.addbeh.2008.03.001

Martens, M. P., Watson II, J. C., Royland, E. M., & Beck, N. C. (2005). Development of the athlete drinking scale. *Psychology of Addictive Behaviors*, *19*(2), 158-164. DOI: 10.1037/0893-164X.19.2.158

Mentink, J. W. (2001). *Major depression in collegiate student -athletes: Case study research* (Order No. 3023599). Available from ProQuest Dissertations & Theses Global. (304733270). Retrieved from https://proxy.library.upenn.edu/login?url=https://proxy.library.upenn.edu:7450/docview/304733270?accountid=14707

Meridew, C., Jaszewski, A., Athey, A., Alfonso-Miller, P., Killgore, W. D., Gehrels, J., & Grandner, M. A. (2017). 1208 IMPACT OF TIME AND ACTIVITY DEMANDS ON SLEEP OF STUDENT ATHLETES: IT'S NOT ABOUT REDUCED SLEEP OPPORTUNITY. *Journal of Sleep and Sleep Disorders Research*, *40*(suppl_1), A450-A450. DOI: 10.1093/sleepj/zsx050.1207

Misasi, S. P., Davis Jr, C. F., Morin, G. E., & Stockman, D. (1996). Academic preparation of athletic trainers as counselors. *Journal of Athletic Training*, *31*(1), 39-42

Moulton, M. A., Molstad, S., & Turner, A. (1997). The role of athletic trainers in counseling collegiate athletes. *Journal of Athletic Training*, *32*(2), 148-150.

National Athletic Trainers' Association. (1995). NATA code of ethics. *Dallas, TX: National Athletic Trainers' Association*.

National Athletic Trainer's Association. (2011). Athletic training education competencies. 5th ed. National Athletic Trainers' Association Web site. Available at: http://www.nata.org/sites/ default/files/5th_Edition_Competencies.pdf. Accessed July 26, 2017.

National Institute of Alcohol Abuse and Alcoholism. (2017). Drinking levels defined. Retrieved from: https://www.niaaa.nih.gov/alcohol-health/overview-alcoholconsumption/moderate-binge-drinking

Nattiv, A., & Puffer, J. C. (1991). Lifestyles and health risks of collegiate athletes. *Journal of Family Practice*, *33*(6), 585-590.

Nattiv, A., Puffer, J. C., & Green, G. A. (1997). Lifestyles and health risks of collegiate athletes: a multi-center study. *Clinical Journal of Sport Medicine*, *7*(4), 262-272. DOI: 10.1097/00042752-199710000-00004

NCAA, (2016) Sport Science Institute. Inter-association consensus document: best practices for understanding and supporting student-athlete mental wellness. National Collegiate Athletic Association Web site. http://www.ncaa.org/sites/default/files/Mental%20Health%20Best%20Practices%20WEB%20SINGLE.pdf. Published 2016. Accessed February 16, 2016.

Neal, T. L., Diamond, A. B., Goldman, S., Klossner, D., Morse, E. D., Pajak, D. E., & Welzant, V. (2013). Inter-association recommendations for developing a plan to recognize and refer student-athletes with psychological concerns at the collegiate level: an executive summary of a consensus statement. *Journal of Athletic Training*, *48*(5), 716-720. DOI: 10.4085/1062-6050-48.4.13

Nelson, T. F., & Wechsler, H. (2001). Alcohol and college athletes. *Medicine & Science in Sports & Exercise, 33*(1), 43-47. http://dx.doi.org/10.1097/00005768-200101000-00008

New, J. (2016, January 14). Mental health of college athletes. Retrieved July 31, 2017, from https://www.insidehighered.com/news/2016/01/14/ ncaa-establishes-best-practices-mental-health-college-athletes

Nieman, D. C., & Pedersen, B. K. (1999). Exercise and immune function. *Sports Medicine, 27*(2), 73-80. DOI: 10.2165/00007256-199927020-00001

Niemiec, R. M. (2009). Ok, now what? Taking action. *VIA Institute.* Retrieved from www.viacharacter.org/www/AwareExploreApply/tabid/249/

Niemiec, R. M., & Lissing, J. (2016). Mindfulness-based strengths practice (MBSP) for enhancing well-being, managing problems, and boosting positive relationships. In I. Ivtzan and T. Lomas, *Mindfulness in positive psychology: The science of meditation and wellbeing*, pp.15-36. New York: Taylor & Francis eBooks.

Papanikolaou, Z., Nikolaidis, D., Patsiaouras, A., & Alexopoulos, P. (2003). The freshman experience: High stress-low grades. *Athletic Insight: The Online Journal of Sport Psychology*, *5*(4).

Pawelski, J. O. (2009). Toward a new generation of positive interventions. Draft

Pawelski, J. O. (2013). Happiness and it opposites. In S. David, I. Boniwell, & A. C. Ayers (Eds.), *The Oxford handbook of happiness* (326-336). Oxford: Oxford University Press

Pawelski, J. O. (2016a). Defining the 'positive' in positive psychology: Part I. A descriptive analysis. *The Journal of Positive Psychology*, *11*(4), 339-356. DOI: 10.1080/17439760.2015.1137627

Pawelski, J. O. (2016b). Defining the 'positive' in positive psychology: Part II. A normative analysis. *The Journal of Positive Psychology*, *11*(4), 357-365. DOI: 10.1080/17439760.2015.1137628

Pawelski, J. O. (n.d.). *Foundations of positive interventions* [PowerPoint]

Peterson, C. (2006). *A primer in positive psychology.* New York, NY: Oxford University Press.

Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. New York: Oxford University Press/Washington, DC: American.

Park, N., Peterson, C. & Seligman, M.E.P. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology*, *23*, 603–619. DOI: 10.1521/jscp.23.5.603.50748

Phang, C. K., Mukhtar, F., Ibrahim, N., Keng, S. L., & Sidik, S. M. (2015). Effects of a brief mindfulness-based intervention program for stress management among medical students: The Mindful-Gym randomized controlled study. *Advances in Health Sciences Education*, *20*(5), 1115-1134. DOI: 10.1007/s10459-015-9591-3

Proctor, S. L., & Boan-Lenzo, C. (2010). Prevalence of depressive symptoms in male intercollegiate student-athletes and nonathletes. *Journal of Clinical Sport Psychology*, *4*(3), 204-220. DOI: 10.1123/jcsp.4.3.204

Putukian, M. (2016). The psychological response to injury in student athletes: a narrative review with a focus on mental health. *British Journal of Sports Medicine*, *50*(3), 145-148. DOI: 10.1136/bjsports-2015-095586

Ratey, J. J., & Loehr, J. E. (2011). The positive impact of physical activity on cognition during adulthood: a review of underlying mechanisms, evidence and recommendations. *Reviews in the Neurosciences*, *22*(2), 171-185. DOI: 10.1515/rns.2011.017

Reardon, C. L., & Factor, R. M. (2010). Sport psychiatry. *Sports Medicine*, *40*(11), 961-980. DOI: 10.2165/11536580-000000000-00000

Reivich, K., & Saltzberg, J. (2017, February 12). Positive psychology and individuals. Lecture and Power Point slides, MAPP 708, Spring 2017. Retrieved from https://canvas.upenn.edu/courses/1345270/pages/on-site-materials?module_item_id=13491888

Reivich, K. J., Seligman, M. E. P., & McBride, S. (2011). Master resilience training in the U.S. Army. *American Psychologist*, *66*(1), 25-34. DOI: 10.1037/a0021897

Reivich, K., & Shatte, K. (2002). *The resilience factor: 7 keys to finding your inner strength and overcoming life's hurdles.* New York: Broadway Books.

Roh & Perna, 2000, J. L. C., & Perna, F. M. (2000). Psychology/counseling: a universal competency in athletic training. *Journal of Athletic Training*, *35*(4), 458-465.

Roos, K. G., Marshall, S. W., Kerr, Z. Y., Golightly, Y. M., Kucera, K. L., Myers, J. B., Rosamond, W.D.& Comstock, R. D. (2015). Epidemiology of overuse injuries in collegiate and high school athletics in the United States. *The American Journal of Sports Medicine*, *43*(7), 1790-1797. DOI: 10.1177/0363546515580790

Scully, D., Kremer, J., Meade, M. M., Graham, R., & Dudgeon, K. (1998). Physical exercise and psychological well being: a critical review. *British Journal of Sports Medicine*, *32*(2), 111-120. DOI: 10.1136/bjsm.32.2.111

Schuch, F. B., Vancampfort, D., Richards, J., Rosenbaum, S., Ward, P. B., & Stubbs, B. (2016). Exercise as a treatment for depression: a meta-analysis adjusting for publication bias. *Journal of Psychiatric Research*, *77*, 42-51. DOI: doi.org/10.1016/j.jpsychires.2016.02.023

Schutte, N. S., Malouff, J. M., Thorsteinsson, E. B., Bhullar, N., & Rooke, S. E. (2007). A meta-analytic investigation of the relationship between emotional intelligence and health. *Personality and Individual Differences, 42*(6), 921-933. DOI:10.1016/j.paid.2006.09.003

Seligman, M.E.P. (2002). *Authentic happiness.* New York, NY: Free Press.

Seligman, M.E.P. (2008), Positive Health. *Applied Psychology*, 57: 3–18. doi:10.1111/j.1464-0597.2008.00351.x

Seligman M.E.P. (2011). *Flourish: A Visionary New Understanding of Happiness and Well-being*. New York: Free Press

Seligman, M.E.P. & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*, 5–14. DOI: 10.1037//0003-066X.55.1.5

Seligman, M. E.P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: empirical validation of interventions. *American psychologist*, *60*(5), 410. DOI: 10.1037/0003-066X.60.5.410

Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology*, *65*(5), 467-487. DOI: 10.1002/jclp.20593

Shapiro, S. L., & Carlson, L. E. (2009). *The art and science of mindfulness: Integrating mindfulness into psychology and the helping professions*. American Psychological Association. doi:10.1037/11885-000

Shusterman, R. (2006). Thinking Through the Body, Educating for the Humanities: A Plea for Somaesthetics. *Journal of Aesthetic Education*,*40*(1).

Slade, M. (2010). Mental illness and well-being: the central importance of positive psychology and recovery approaches. *BMC Health Services Research, 10*(1). 26. DOI: 10.1186/1472-6963-10-26

Slaski, M., & Cartwright, S. (2003). Emotional intelligence training and its implications for stress, health and performance. *Stress and Health*, *19*(4), 233-239. DOI: 10.1002/smi.979

Slattery, M. L., & Potter, J. D. (2002). Physical activity and colon cancer: confounding or interaction?. *Medicine and Science in Sports and Exercise*, *34*(6), 913-919. DOI: 10.1097/00005768-200206000-00002

Smalley, S. L., & Winston, D. (2010). *Fully present: The science, art, and practice of mindfulness.* New York: De Capo Press.

Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry*, *13*(4), 249-275. DOI:10.1207/S15327965PLI1304_01

Steinbach, P. (May 2009). Contract bonuses award college coaches for all sorts of achievements. *Athletic Business*. Retrieved from http://www.athleticbusiness.com/Staffing/contract-bonuses-award-college-coaches-for-all-sorts-of-achievements.html

Sullivan, P., & Feltz, D. L. (2003). The preliminary development of the Scale for Effective Communication in Team Sports (SECTS). *Journal of Applied Social Psychology*, *33*(8), 1693-1715. DOI: 10.1111/j.1559-1816.2003.tb01970.x

Tugade, M. M., & Fredrickson, B. L. (2004, February). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology 88*(6), 320-333. doi 10.1037/0022-3514.86.2.320

Tugade, M. M., Fredrickson, B. L., & Barrett, L. F. (2004, December). Psychological resilience and positive emotional granularity: Examining the benefits of positive emotions on

coping and health. *Journal of Personality, 72*(6), 1161-1190. doi: 10.1111/j.1467-6494.2004.00294.x

Vealey, R. S., Garner-Holman, M., Hayashi, S. W., & Giacobbi, P. (1998). Sources of sport-confidence: Conceptualization and instrument development. *Journal of Sport and Exercise Psychology, 20*(1), 54-80. DOI: 10.1123/jsep.20.1.54

Van Rooy, D. L., & Viswesvaran, C. (2004). Emotional intelligence: A meta-analytic investigation of predictive validity and nomological net. *Journal of Vocational Behavior, 65*(1), 71-95. DOI:10.1016/S0001-8791(03)00076-9

Velasco, H. (2017, July 21). Few student-athletes with mental illness seek help. Retrieved July 30, 2017, from USA Today College website: http://college.usatoday.com/2017/07/21/few-student-athletes-with-mental-illness-seek-help/

Vella-Brodrick, D. A. (2014). Dovetailing ethical practice and positive psychology to promote integrity, industriousness, innovation, and impact. *The Wiley Blackwell handbook of positive psychological interventions*, 416-432.

Vuori, I. M. (2001). Dose-response of physical activity and low back pain, osteoarthritis, and osteoporosis. *Medicine and Science in Sports and Exercise, 33*(6 Suppl), S551-86. DOI: 10.1097/00005768-200106001-00026

Walters, P. H. (2002). Sleep, the Athlete, and Performance. *Strength & Conditioning Journal, 24*(2), 17-24.

Watson, J. C. (2002). Assessing the potential for alcohol-related issues among college student-athletes. *Athletic Insight: The Online Journal of Sport Psychology, 14*.

Wechsler, H., & Nelson, T. F. (2008). What we have learned from the Harvard School of Public Health College Alcohol Study: Focusing attention on college student alcohol

consumption and the environmental conditions that promote it. *Journal of Studies on Alcohol and Drugs*, *69*(4), 481-490. DOI:10.15288/jsad.2008.69.481

Wiese-Bjornstal, D. M., Smith, A. M., Shaffer, S. M., & Morrey, M. A. (1998). An integrated model of response to sport injury: Psychological and sociological dynamics. *Journal of Applied Sport Psychology*, *10*(1), 46-69. DOI: 10.1080/10413209808406377

Williams, J. M., Kenow, L. J., Jerome, G. J., Rogers, T., Sartain, T. A., & Darland, G. (2003). Factor structure of the coaching behavior questionnaire and its relationship to athlete variables. *The Sport Psychologist*, *17*(1), 16-34. DOI: 10.1123/tsp.17.1.16

Williams, N. (2014). PHQ-9. *Occupational Medicine*, *64*(2), 139-140. Retrieved from: https://proxy.library.upenn.edu:2077/10.1093/occmed/kqt154

Wilson, G. S., & Pritchard, M. (2005). Comparing sources of stress in college student athletes and non-athletes. *Athletic Insight: The Online Journal of Sport Psychology*, *7(1)*, 1-8.

Wolanin, A., Gross, M., & Hong, E. (2015). Depression in athletes: prevalence and risk factors. *Current Sports Medicine Reports*, *14*(1), 56-60. DOI: 10.1249/JSR.0000000000000123

Yang, J., Peek-Asa, C., Corlette, J. D., Cheng, G., Foster, D. T., & Albright, J. (2007). Prevalence of and risk factors associated with symptoms of depression in competitive collegiate student athletes. *Clinical Journal of Sport Medicine*, *17*(6), 481-487. DOI: 10.1097/JSM.0b013e31815aed6b

Youngstedt, S. D. (2005). Effects of exercise on sleep. *Clinics in Sports Medicine*, *24*(2), 355-365. DOI: 10.1016/j.csm.2004.12.003

Yusko, D., Buckman, J., White, H., & Pandina, R. (2008). Alcohol, tobacco, illicit drugs, and performance enhancers: A comparison of use by college student athletes and nonathletes. *Journal of American College Health*, *57*(3), 281–289. DOI: 10.3200/JACH.57.3.281-290

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, *52*(1), 30-41. DOI: 10.1207/s15327752jpa5201_2