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The Future of Mental Health in Sport: CBT and Athletes

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Collegiate and elite athletes are at higher risk of developing anxiety disorders, depressive disorders, and substance abuse disorders. These competitive athletes often struggle with unique stressors such as balancing social life with sport and mental health stigma due to expectation of mental toughness. Research suggests these vulnerabilities amongst competitive athletes may make them hesitant to seek mental health resources. Cognitive-Behavioral Therapy (CBT) is an evidence-based approach that promotes skill development that reduces symptoms of anxiety, depression, substance use and other mental health struggles. CBT strategies may also enhance athletic performance. Combined, CBT skills for athletes may have promise as a primary prevention strategy for mental health symptoms, a secondary prevention strategy by offering referral for more serious symptoms and may earn buy in from coaches and athletes due to the potential for enhancing athletic performance. This paper provides empirical and theoretical rationale and framework for such an approach.

Keywords: Sport psychology, mental health, athletes, CBT, stigma

It is well documented that participation in sport can yield many positive physical, behavioral, and mental health outcomes (Eime et al., 2013; Malm, et al., 2019). Athletic participation has been associated with increased academic success, decreased risk of dropping out of school, and fewer mental health risks (Bartko & Eccles, 2003; Cordero et al., 2014; Lumpkin & Favor, 2013; McNeal, 1995; Sitkowski, 2008; Wretman, 2017). However, research also suggests that athletic participation may contribute to negative sociological and psychological outcomes for some youth and young adults (Moore, 2016). The mixed literature documenting both protective and risk factors associated with collegiate and elite athletic competition, as well as emerging public awareness and literature documenting the mental health risks associated with high levels of athletic performance (e.g., Gústafsdóttir, 2021; Küttel &

Larsen, 2020; McLoughlin et al., 2021), suggest an urgency to better understand and prevent mental health risks within this population. Collegiate and elite athletes – who have engaged more seriously and at an advanced level in sport - face multiple, unique risk and contextual factors that may increase vulnerability to mental health symptoms. Improved understanding of such risk and contextual factors for collegiate and elite athletes is warranted to promote mental wellbeing and better inform the provision of primary and secondary prevention strategies in sport (Kisling & Das, 2021).

This manuscript reviews current literature on mental health among elite athletes and offers ideas for the prevention of mental health symptoms, improved identification and referral for mental health problems, and an integrated prevention model that could also enhance athletic performance. Such a model would perhaps reduce stigma and increase acceptability of such a prevention approach among athletes, coaches, and other athletic staff.

Collegiate Athletes

Collegiate athletes face pressures in sport that may negatively impact their general wellbeing, including the commercialization of college athletics, academic demands on top of the pressures of practice and competition, longer playing seasons and pressure from coaches to succeed in competition (Brown et al., 2014; Gill, 2008). Collegiate athletes that participate in higher revenue sports tend to have lower grade point averages due to the increased social pressures, and expectations to dedicate time for success in sport (James, 2010). On average, a Division I Collegiate athlete dedicates 40 hours a week to their sport, not including time spent in rehabilitation for injuries or injury prevention, leaving limited time for academics (Wolverton, 2008). As success or time spent in collegiate sport increases, research has shown academic performance decreases (Chung, 2013). Higher athletic identity over academic identity may also contribute to lower grades (Paskus, 2012). Therefore, the demands and challenges balancing academic and athletic goals often poses a stressor that can impact the wellbeing of collegiate athletes.

Elite Athletes

While elite athletes have been defined in disparate ways Rankinen et al., 2000; Williams et al, 2017; Swann et al., 2015), for purposes of this paper, elite athletes are individuals competitively selected to play on professional teams, compete internationally in high level competition (e.g., Olympics), paid for participation in sport, or who receive sponsorship or other supports, such as paid coaches, for training. Elite athletes struggle with stressors such as pressure to succeed and obtain funding/salary based off performance, societal demands that come with being celebrated, and upholding an invincible reputation (Gordin & Henschen, 2012; Howells & Lucassen, 2018). According to Hammond and colleagues (2013), the higher the athletic status of an elite athlete, the more of these pressures they experience. When the stakes are higher for winning, more intense pressure to succeed follows (Hammond et al., 2013). A 6-month perspective study consisting of 257 young elite athletes reported about 12% of the athletes struggled with symptoms of burnout and 9% reported depressive symptoms (Gerber et al., 2018). Perfectionism, low levels of social support and autonomy, elevated trait anxiety, unrealistic goal

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setting, negative environments, overidentifying with athletic identity, and lack of adequate coping skills are common characteristics that contribute to burnout in elite athletes (Gustafsson et al., 2017a).

When analyzing the hierarchy of competitive sport, many believe that Olympic athletes are the best athletic performers in the world. Therefore, the stressors and pressures Olympic athletes face may be unlike any other, especially given the unique celebrity-like status and opportunity and pressure to represent their country that this affords them. Olympic athletes have been identified as struggling with post-Olympic blues (POB) after returning home from competition (Gústafsdóttir, 2021; Howells & Lucassen, 2018). Athletes describe experiencing these blues as feelings of isolation, emptiness, loneliness, and a loss of motivation following years of focused effort on such the specific athletic goal of Olympic success (Gústafsdóttir, 2021). In essence, "all of the eggs have been put in one basket" for so long, that regardless of outcome, it is unclear what comes next. A study conducted leading up to the 2016 Summer Olympic Games found that during last month leading up to the Olympics, all athletes reported experiencing a form of illness (e.g., upper respiratory), reflecting the common stress of this event (Drew et al., 2018). Findings also indicated that the main factor contributing to mental illness included anxiety and poor states of stress-recovery on the body throughout the training and preparation process. This study reflects the significant amount of dedication and stress put on the body during the buildup to the Olympics (Drew et al., 2018). One can imagine that when an athlete dedicates a significant amount of their life preparing for one event that is over within a day, the lifestyle change that takes place post-competition may be a sudden and drastic adjustment to adapt to.

The POB are widely recognized and normalized as a part of Olympic culture, leaving athletes to feel as though the depressive symptoms they go through are part of the process and perhaps not actually a clinical issue that requires support or treatment (Howells & Lucassen, 2018). Although most studies on the POB are qualitative, a continued theme amongst the athletes' experiencing POB includes feeling unprepared for celebrity-like attention and lack mental health support after the Olympic Games are over (Bradshaw et al., 2021; Drew et al., 2018; Howells & Lucassen, 2018; Samuel et al., 2016).

Mental Health Concerns

The National Collegiate Athletic Association (NCAA) has identified the number one health related concern to be mental health struggles, specifically depression, suicide, eating disorders, and substance abuse among collegiate athletes (Burnsed & NCAA, 2013). A cross-sectional study conducted with 465 NCAA collegiate athletes identified nearly a quarter (23.7%) of athletes as having clinically significant levels of depressive symptoms (Wolanin et al., 2016). A systematic review of competitive athletes' mental health identified the prevalence of athletes struggling with eating disorders ranged from 10-25% (Reardon et al., 2019), whereas the pooled lifetime prevalence of an eating disorder in the general population is about 1% (Qian et al., 2021). Other studies indicate collegiate athletes are more likely than the general population to engage in risk taking behaviors such as substance abuse, specifically marijuana usage and binge drinking, not wearing seat belts, or engaging in unprotected sexual activity (Brisola-Santos et al., 2016; Buckman et al., 2013; Nattiv et al., 1997; Zhou & Heim, 2014).

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Another alarming more recent statistic is lifetime prevalence rate of 51.7% of mental illness among elite athletes (Åkesdotter et al., 2020), compared with the lifetime mental illness prevalence rate of 20.6% in within the general population in 2019 (Substance Abuse and Mental Health Service Administration [SAMHSA], 2020). While 26% of female elites and 10.2% of male elites met diagnostic criteria for anxiety and/or depression, only 11% of the general population met the same diagnostic criteria (Åkesdotter et al., 2020; Terlizzi & Schiller, 2019). Research suggests the most prevalent mental health diagnoses for both collegiate and elite athletes are depression, anxiety, substance abuse and eating disorders (Dean & Rowan, 2014; Gouttebarge et al., 2013; Ryan et al., 2018).

Depression and Anxiety

Mental illness is not uncommon amongst collegiate athletes. Yang and colleagues (2007) found 21% of 257 collegiate student athletes reported depression, while Weigand and colleagues (2013) noted 16.77% of 117 current student athletes reported depression (Weigand et al., 2013). An associate professor at University of Michigan, Daniel Eisenberg, reported that 33% of students at University of Michigan reported struggling with depression, anxiety, or other mental health symptoms. Of the participants, 30% were seeking help and support. However, only 10% of collegiate athletes struggling with mental health at the university reported help-seeking behaviors (Velasco, 2017). Another study conducted by Gulliver and colleagues (2015) consisting of 224 Australian elite athletes found one out of approximately every two elite athletes (46%) experienced mental health struggles. Additionally, the rate of depression for elite athletes was high at 27.2%, while social anxiety was 14.7%, and generalized anxiety 7.1% (Gulliver, 2015). With an added injury, athletes previously struggling with depression or generalized anxiety had an even greater vulnerability to depressive and anxiety related symptoms (Gulliver et al., 2015).

Eating Disorders

Eating disorders are a prominent concern in sport with nearly a quarter (22.8%) of elite athletes in a recent study reporting endorsing a current or previous eating disorder (Gulliver et al., 2015). Sport subcultures may encourage unhealthy measures to look, weigh, or a belief that weight influences performance that may then lead to onset of food restricting, calorie counting, binging and purging that may ultimately lead to eating disorders (Defaciani, 2016; Thompson & Sherman, 2014). The prevalence of eating disorders has been documented to be higher in elite athletes than that of the general population (Martinsen & Sundgot-Borgen, 2013; Sundgot-Borgen & Torstveit, 2004). An overview of eating disorder prevalence amongst athletes reported female athletes as more likely to struggle with an eating disorder than male athletes, as the prevalence rate of an eating disorder for male athletes ranges from 0-19% whereas female athletes range from 6-45% (Bratland-Sanda & Sundgot-Borgen, 2013).

Substance Abuse

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Substance abuse is also a concern in sport (Reardon & Creado, 2014). One study found recreational drug use and other risky behaviors were much higher among collegiate athletes than their non-athletic counterparts (Nattiv et al., 1997). The most recent report from the NCAA (2018) found marijuana usage in Division I athletes was 18%, and 33% among Division III athletes. In the same time period, data from the U.S. Youth Risk Behavior Surveillance data found 20.2% of youth and young adults aged 10-24 had used marijuana (CDC, 2006). While these statistics are not directly comparable given the age range, the high rate of use among collegiate athletes is concerning, as such high rates of substance use may impact athletic and academic functioning, as well as cognitive development (NIDA, 2021).

One systematic review explored the relationship between sports participation and alcohol and drug use to explore whether such participation had a protective effect on substance use. This systematic review of 17 longitudinal studies found a positive relationship between participation in athletics and increased alcohol use in 14 out of 17 studies, although the relationship between illicit drug use and marijuana use was less clear due to methodological issues (Kwan et al., 2014). Overall, the literature did seem to suggest that participation in sport could have the greatest protective effect when it came to illicit substance use first, marijuana use next, followed by alcohol (Kwan et al., 2014).

Treatment Barriers

Mental health stigma is higher among collegiate and elite athletes than that of the general population, which may discourage athletes from seeking mental health care when they may need it (Bauman, 2016; Kaier et al., 2015). Secondary prevention strategies of detecting signs of mental illness are needed to connect athletes to evidence-based mental health care. The paucity of recognition, prevention, and treatment of mental illness in sport may be a contributing factor to mental health vulnerabilities of athletes. According to Reardon and Factor (2010), the cultural dynamic and reputation of competitive athletes is that they are mentally and physically tough. This culture may create an additional challenge in accurately identifying the significance of mental illness within sport due to athlete underreporting due to this stigma (Rao & Hong, 2020). Prior research indicates that athletes and coaches tend to minimize the significance of mental illness due to a belief that athletes must be mentally tough, further implying the negative stereotype that mental illness signifies weakness (Bauman, 2016; Carr & Davidson, 2015).

Collegiate athletes report significantly higher levels of stigma around the perceived view of mental illness than their non-athlete peers (Kaier et al., 2015). There are a variety of factors that contribute to athletes' hesitancy toward seeking mental health services including lack of education on mental illness, fear of consequences if mental illness is found out (e.g., losing spot on a team), and limited time to seek or receive services (Castaldelli-Maia et al., 2019; Gulliver et al., 2012; Reardon & Factor, 2010). Demystifying, destigmatizing, and normalizing mental health concerns, as well as emphasizing the importance of appropriate mental health support for athletes may help to reduce the number of athletes suffering with mental illness in silence.

Cox (2015) evaluated health seeking behaviors of Division I collegiate athletes and found that over a quarter (25.7%) did not know where to seek mental health support and 44.5% of the athletes had not received any mental health education from the school athletic department. Help-seeking behaviors for elite athletes has not been evaluated like that of collegiate athletes. It

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appears that there are far more studies on mental health for collegiate athletes than that of elite level athletes. However, older studies have indicated that elite athletes are less likely to seek mental health services than that of the general population (Carmen et al., 1968; Pierce, 1969). Athletes that continue to avoid evidence-based care may instead engage in unhealthy coping habits such as utilizing substances or suppressing any uncomfortable thoughts and emotions that can lead to mental health vulnerability.

Prevention, Treatment and Sports Enhancement Using Cognitive Behavioral Therapy

Cognitive-Behavioral Therapy (CBT) is a goal oriented and structured form of therapy that has been tested and proven effective with a range of mental health conditions, including depression, anxiety, eating disorders and obsessive-compulsive disorder (OCD) (Butler et al., 2006; Lewin et al., 2014). CBT is also an effective approach for treating eating disorders and substance abuse (Linardon et al., 2017; McHugh et al., 2010). As previously mentioned, the most prevalent mental health struggles for elite and collegiate athletes are depression, anxiety, substance abuse and eating disorders (Dean & Rowan, 2014; Gouttebarge et al., 2013; Hayes & Levin, 2012; Ryan et al., 2018; Kass et al., 2013). Therefore, CBT may be a particularly valuable treatment modality for the collegiate and elite athlete population.

CBT can enhance individuals' positive functioning and improve self-confidence (Beck, 2011; Chaves et al., 2017; McKay & Fanning, 2016). Depending on an athlete's ability to cope, a positive performance outcome may improve self-confidence whereas as a negative performance may reinforce or lower negative self-worth. Athletes with low self-confidence are more likely to struggle with anxiety and depression, which negatively impacts performance and overall wellbeing (Samadzadeh & Shahbazzadegan, 2011; Rahimnia et al., 2013). CBT strategies can help athletes develop resilience and the ability to cope with life stressors. If an athlete's mental wellbeing is not a concern, one may argue that learning effective CBT strategies may be utilized as a preventative measure for life stressors that athletes may face in the future, while also building resilience and confidence that may positively impact sport performance (Forsdyke et al., 2016; Joyce et al., 2018; McKay & Fanning, 2016). Low confidence has been shown to be associated with poor performance in sport (Hays et al., 2009).

CBT strategies are also useful for decreasing negative thinking patterns and reframing distorted thoughts, which has also shown to have benefit for elite athletes with perfectionism and burnout as well (Beck, 2011; Gustafsson et al., 2017a; Gustafsson et al., 2017b). Anxious athletes may focus on negative thoughts that lead them to become overwhelmed with high level competition due to perfectionism, or their own or others' (e.g., fans) unrealistic expectations. CBT helps individuals recognize and reframe distorted thinking patterns that may also improve athletic performance (Beck, 2011; Chand et al., 2021). Moreover, the suppression or avoidance of unwanted thoughts and emotions – which may be happening with many high-level athletes – may cause an adverse effect by enhancing negative thoughts, fear, and anxiety (Clark et al., 1991; Purdon, 1999; Wegner, 1994).

With the existing gap in athletes receiving mental health care, the implementation of CBT strategies may help prevent the onset of a mental illness or be a gateway to more specialized mental health care (Gill, 2008; Gustafsson et al., 2017a; Purcell et al., 2019). In an ideal world, competitive athletes should receive appropriately customized evidence-based care for their

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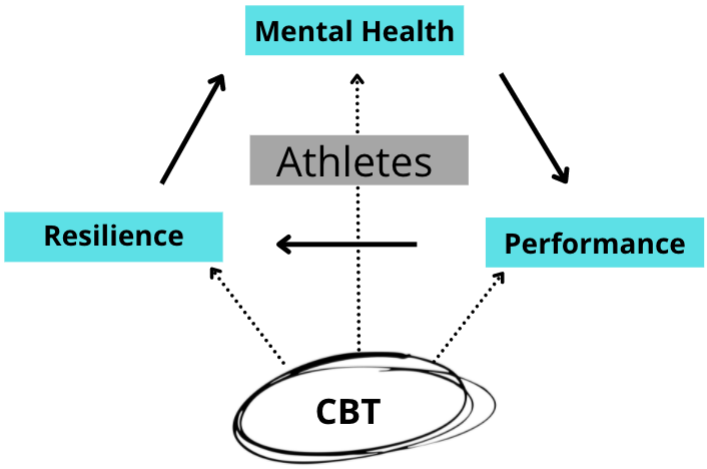
specific presenting concerns. However, the mental health barriers athletes face often keep them suffering in silence (Castaldelli-Maia et al., 2019; Gulliver et al., 2012; Reardon & Factor, 2010). While further educating athletes and athlete support staff on mental illness and appropriate resources are important, what if CBT skills were more broadly incorporated into athletics to enhance adaptive thinking and behavior, with the goal of preventing or reducing the severity of mental health problems as a primary prevention strategy among all competitive athletics? An argument in favor of such an approach could speak to the broader benefits that could exist for all athletes given the documented impact of CBT skills on athletic performance (Meyers et al., (1996); Neil et al., 2013) and improved life coping skills (Horwitz et al., 2018; Hutnik et al., 2016). Moreover, if coaches and athlete support staff were aware of the potential for confidence and performance improvements for their athletes, they may buy into CBT preventative strategies as an important component to implement in athlete's training routines.

Resiliency is a characteristic of athletes proven to contribute to lower risks of depression, anxiety and OCD tendencies (Hammond et al., 2013; Proctor & Boan-Lenzo, 2010). A study explaining the impact that resiliency has on aging, discusses the components of resilience as *"the ability to frame difficult life events in positive terms, accept what cannot be changed, manage worry and anxiety effectively, develop psychological flexibility in the face of change and continually seek opportunities for growth and development"* (Hutnik et al., 2016, pp. 110-118). A systematic review of 548 articles reported CBT-based interventions have a positive effect on resilience (Joyce et al., 2018). Figure 1 describes how CBT strategies may positively impact resilience and athletic performance in sport, while also depicting how performance, resilience and mental health play a significant role in the cycle of an athlete's life. With an increase in resilience, athletes may benefit from an overall increase in self-efficacy and confidence (Bandura, 1977; Joyce et al., 2018; Lopez-Garrido, 2023).

Figure 1. ***Cognitive Behavioral Therapy for Athletes***



Future work addressing mental health concerns using CBT could focus on translating CBT skills to be efficiently delivered in group settings to all athletes, with focused follow up for

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individual athletes who may need more individualized treatment support. This "two for one" approach could support athletes in the development of positive, realistic thinking patterns that also help with sport performance, in addition to benefiting athletes that may be secretly or unknowingly struggling with mental illness. For those struggling with mental illness, the incorporation of CBT and perhaps other psychoeducational resources to support referral may be a beneficial gateway approach to point athletes towards more directive evidence-based mental health care. It is well established that CBT helps to promote a positive sense of self, and therefore CBT strategies may benefit athletes' wellbeing in addition to sport performance, and perhaps prevent an onset of future mental illness (Beck, 2011; Horwitz et al., 2018).

Future Directions

Although we may be moving towards a world that is more accepting of mental health concerns, primary and secondary prevention is needed for the athletes now. Prior research suggests collegiate and elite athletes struggle most commonly with disorders that CBT is used to effectively treat. We also know that CBT strategies help to increase sense of confidence and positive reframing that can be helpful for sport (Beck, 2011; Chaves et al., 2017; McKay & Fanning, 2016). Helping athletes learn these strategies and how to incorporate them into their sport may help their overall sport performance in addition to increasing positive wellbeing and preventing mental health risks. It is important to note that when an athlete is struggling with anxiety, depression, substance abuse, or an eating disorder, CBT alone may not be the most efficacious approach to meet the athlete's mental health needs. There are research-supported interventions that could be connected to athletes. For example, an athlete struggling with emotion regulation or anger management may benefit from Dialectical Behavioral Therapy (DBT) (Frazier & Vela, 2014), whereas athletes with eating disorders may need more specialized care that incorporates exposure and family-based therapy techniques (Kosmerly et al., 2015; Reilly et al., 2017). Future research should develop and test the effectiveness of team based mental health primary and secondary prevention models on both mental health and performance outcomes.

Finally, if athlete support staff can recognize mental illness within sport, they can also encourage athletes to seek out specific, tailored evidence-based care. This care may incorporate evidence-based mental health applications or Telehealth resources that are convenient, more private and that reduce the stigma of help seeking on campus or in public. The incorporation of CBT, may however, help to catch negative thinking patterns early, thereby more broadly preventing mental illness, and even potentially boosting performance among athletes. Although CBT is not a "one size fits all" approach, it may be a starting point to helping athletes reduce mental health risks, and if needed, begin the therapeutic process of obtaining specialized care instead of suffering in silence.

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