

# A Literature Review: Mental Health Consequences of Long-Term Injuries in Elite Student-Athletes

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## ABSTRACT

Despite increased research surrounding the mental health of elite student-athletes in recent years, investigation that is specific to the impact of long-term injuries on psychological well-being remains limited. Specifically, there is a particularly prevalent gap in research on high school student-athletes. While a 2020 study reported that 75% of high school athletes feel overwhelmed (Ballesteros and Tran, 2020), it is unusual for young athletes to be provided with educational resources about the psychological impact of injuries. This literature review will explore the relationship between long-term injuries and mental health disorders faced by elite high school aged athletes, as well as collegiate athletes. In recent peer-reviewed studies, there were several stressors faced by elite student-athletes dealing with long-term injuries that were identified as most common. Identified stressors included identity loss, extreme academic and athletic pressure, social isolation, and the negative stigma that surrounds mental health. The stigma surrounding mental health often prevents athletes from seeking needed help. They are fearful that this demand will cause them to appear weak and vulnerable in comparison to teammates or competitors. This literature review emphasizes the need for accessible mental health resources, early mental health training to build resilience, increased acknowledgement that it is not unusual to face psychological challenges, and recognition that it is important to face such challenges head-on and ask for support when needed. If these gaps are addressed, student-athletes will be better supported during not only recovery, but also for the future.

## INTRODUCTION

For years, the general mental health of humans has been recognized as an issue of great importance. In the past two decades, research about the mental health of student-athletes has been prioritized significantly more. Despite this, the connection between long-term injuries and the impact that they can have on the mental health of elite student-athletes remains an understudied topic (Gulliver et al., 2012). For purposes of this paper, the term “elite” as opposed to a “casual” student-athlete indicates that the athlete devotes a very significant part of their life to playing their sport, either as a collegiate athlete or as a very strong high school athlete who desires to play at the college level. Injuries are the most common reason for the early cessation of athletic careers. Hence, it is essential that this concern is addressed (Ristolainen, 2012).

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The phrase “long-term” indicates that the injury has prevailed for an extended amount of time, at least multiple months, without fully healing. In turn, this means that this athlete has likely been unable to participate in their sport for this time period, instead shifting their attention to recovery and injury management. Elite student-athletes are subject to an intensified amount of stress factors due to the extreme pressure they face from parents, themselves, coaches, or the public while training and competing. In order for these elite college and high school level athletes to perform at a high level, they must balance rigorous training schedules with academic responsibilities (Cox, Ross-Stewart, & Foltz, 2017). If an athlete is injured, the combination of increased stressors and additional commitments places increased pressure on the athlete. Pre-existing studies have demonstrated that this pressure from long-term injury recovery can often lead to greater levels of depression, stress, anxiety, and emotional exhaustion (Gulliver, 2012). Tackling this issue is crucial to the development of student-athletes and the longevity of their careers, as well as their overall health (Ristolainen, 2012). A stigma has been created around the mental health of student-athletes that prevents them from seeking help, as they fear it will make them appear fragile (Wang, 2009; Gulliver et al., 2012). The media further exacerbates this stigma by portraying athletes as individuals who are immune to weaknesses and expressing emotions. Lastly, the data considered in this paper is based on a subset of student-athletes and focuses on specific sports outcomes in specific countries. Despite this, it is implied that the findings can be applied to the athletic community as a whole.

### ***AIMS OF THE PAPER & RESEARCH QUESTION***

This literature review intends to identify and address the disparity in research by examining recent data and analyzing the psychological threats associated with long-term injuries faced by elite student-athletes. Specifically, this review will educate coaches, psychologists, student-athletes, and other stakeholders on the urgency of this topic, as well as how to effectively prepare for and handle injury-related mental health challenges (Kaishan, Kaishan, 2021). The ultimate goal is to create awareness that will guide athletes to seek support when needed and to make more support available (Breslin et al., 2019). My literature review aims to answer the following question:

***Research Question:*** Through analyzing existing research, what can we observe about the relationship between long-term injuries and mental health challenges faced by elite student-athletes?

### **METHODS**

This paper consists of a literature review that has been created by reading and synthesizing pre-existing articles on the relationship between elite student-athletes and the mental health challenges faced during long-term injuries. A structured search has been conducted across multiple electronic databases. It only focuses on peer-reviewed articles written in the past decade to ensure current relevance. Furthermore, it focuses on elite-student-athletes who are in college or high-school and face mental health challenges that

are injury related. Common themes have been noted between the different articles, and they have been summarized.

## **LITERATURE REVIEW**

### ***THE INCREASED STRESSORS OF ELITE STUDENT-ATHLETES***

Elite student-athletes constantly carry extremely heavy schedules. They are not only expected to perform at exceptionally high levels of their sport but also need to manage academic responsibilities and maintain strong grades. Balancing the dueling identities of being both a student and an athlete often creates internal conflict, as it can feel like one role has to be prioritized over the other. Elite student-athletes regularly dedicate multiple hours each day to practicing, strength and cardio training, or competing. Then, each night, they return home and need to complete demanding school assignments. The amplification of everyday commitments puts a sense of constant pressure on these athletes (Bruner, Munroe-Chandler, Spink, 2009). Facing increased responsibilities can place athletes into a burnout cycle—feelings of continuous exhaustion and stress—where athletes feel like they have no time to rest.

Casual athletes and spectators most often do not understand the discipline that is required for an elite student-athlete to succeed or the toll that this lifestyle can take on their mental and physical health. In sports, particularly at the “elite” level, there is often a fear of failing, as well as a fear of disappointing teammates, coaches, family, or yourself. A constant pressure to play one’s absolute best, as well as the host of other emotional and physical stressors, can generate constant feelings of stress, depression, and anxiety (Ivarsson, 2017). According to a fall of 2015 study at the American College Health Association in a data set that surveyed student-athletes, 78% of high school student-athletes reported feeling overwhelmed or stressed (Ballesteros and Tran, 2020).

Constantly following strict training regimes can leave student-athletes feeling isolated from relationships outside of sports. Having limited time to build connections outside of sports can contribute to feelings of depression or loneliness.

Frequently pushing one’s body beyond its limits with little to no rest time can often lead to physical exhaustion (Gutmann, Pollock, & Foster, 1984). When challenged with academic pressure in addition, student-athletes can feel like they are in a perpetual cycle of overworking and as though they have lost the control over their own life. Immediate reactions to this overexertion are depleted physical capacity, including tired muscles, elevated heart rates, decreased motivation, and lower mental resilience (Heil, Podlog, 2019). Over time, feelings of constant stress can lead to burnout where a student-athlete’s enjoyment of both their sport and academics may decrease. This cycle makes them more susceptible to a “tunnel vision” mindset, preventing them from thinking beyond their next immediate task or competition, limiting their coping skills, and long-term planning capabilities.

Unfortunately, mental health resources are often difficult to access. Even when such resources are available, many athletes are unaware that they exist to begin with. Those who do have access to such support systems may also fear judgement in seeking help (Gulliver et al., 2012). Consequently, many student-athletes conceal their pain and internalize their struggles, rather than seeking help (Gulliver et al., 2012).

### ***THE SPECIFIC IMPACT OF INJURIES***

ACL tears, stress fractures, and concussions are all examples of injuries that might require an athlete to be out of their sport for a sustained period of time. Long-term injuries faced by elite student-athletes cause more than significant physical pain, they are commonly responsible for setting off a series of mental health challenges (Gulliver, Griffiths, & Mackinnon, 2015). Such challenges can result in student-athletes internalizing blame for their injury or lead the athlete to experience magnified physical pain.

It has been shown that long periods of recovery increase the likelihood of experiencing mental health disorders (Reardon, 2019; Putukian, 2016). After abruptly being restricted from competing, student-athletes may feel as though they have become disconnected to their physical and emotional selves (Wiese-Bjornstal, 2010). In addition to affecting an athlete's ability to focus on academics and responsibilities in their daily routine, such a disruption can affect athletes' personal relationships. Watching practices and competitions from afar may cause injured student-athletes to feel a growing divide from teammates. It can feel as though other teammates are becoming closer while they are being left behind, further exacerbating negative feelings (Maschke, 2022).

The recovery time for long-term injuries often spans months or even years, during which athletes are forced to miss important competitions and practices. This missed time can threaten athletes' academic funding, careers, and future opportunities, triggering a sense of loss of control. If athletes are on athletic scholarships, their ability to attend school may be contingent on their performance and contribution to the team. In such cases, an injury can result in a partial or complete loss of financial support. Furthermore, the costs of medical treatment and rehabilitation therapy are extremely high. While a portion of the cost may be covered by the school or by insurance, athletes are often still left with large outstanding balances, placing some families in compromising financial situations, which creates more emotional stress (Loland, 2006).

After physical healing is complete, the mental impact of an injury may persist, potentially leading to suicide. According to a study from 2018, Healthy Minds reported that 1.7% of college students had attempted suicide in the past year. The rate was even higher among student-athletes (Sullivan et al., 2021). In addition, some student-athletes struggle with body image during recovery, particularly female student-athletes (Prior & Papatomas, 2021). When training hours are reduced, changes in physical appearance may become a source of distress and can even contribute to disordered eating habits (Prior & Papatomas, 2022).

Another major challenge arises when student-athletes try to return to competitions following an injury. It is not uncommon for student-athletes to worry about reinjuring themselves or not being able to compete at

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their former performance level (Everard, Wade, & Howells, 2015; Sonesson, 2017). This lack of confidence can in turn influence a student-athlete's ability to perform at their highest level. Furthermore, after long recovery periods, they may have trouble distinguishing real physical pain from psychosomatic pain—pain is exacerbated or prolonged by anxiety. An inability to identify if you are feeling true pain can lead to hesitation and a lack of confidence when integrating back into sports after an injury. In addition, it can increase the risk of athletes failing to return to their sport.

## **STIGMA**

In intense athletic environments, there is often a culture in which appearing tough and brave is valued above almost anything else—particularly in environments that are male-dominated. Thus, student athletes are often encouraged to play through pain and suppress emotions, as it could affect their seemingly fearless persona (Wiese-Bjornstal, 2010). Consequently, athletes may feel like their injuries or emotional struggles are personal weaknesses, creating large barriers for student-athletes who are in need of support. Although about 25% of student-athletes experience mental health struggles, only one-in-four seeks professional help, often due to a fear of judgment (Sawyer et al., 2001). The media is a large contributor to stigma. By frequently portraying student-athletes as immune to the same struggles faced by the rest of the population and as mentally unbreakable, many of those affected become increasingly inclined to stay silent about their struggles (Wang, 2009).

Coaches are often unaware of the signs of poor mental health, and may unknowingly add to the issue by placing a larger emphasis on performance, rather than the overall well-being of their athletes (Gulliver et al., 2012). Many student-athletes are convinced that the embarrassment associated with speaking with a psychologist outweighs the positive effects it may provide. Some student-athletes are even scared of family and friends finding out about their situations, believing that it would change their social relationships (Wadley, 2018; Podlog, 2023). Researchers Gulliver et al., (2012) found that when surveying student-athletes between the ages of 16 and 34, stigma appeared as the biggest barrier that student-athletes faced while searching for help. One subject from the research reported that they did not want to seek help as it made them look weak and unable to handle the pressures of being a student-athlete. This reflects a broader truth within sports culture that in addition to high performance there is a large emphasis placed on appearing “unshakable” (Gulliver et al., 2012). This stigma is also responsible for delayed mental health treatment, emotional isolation, burnout, and suicidal thoughts (Sullivan et al., 2021).

Morgan Rodgers, a former player on the Duke University women's lacrosse team, is a testament to the impact of stigma. In 2017, during her sophomore year of college, Morgan faced a knee injury that essentially ended her lacrosse career. She was prevented from playing lacrosse for at least a year, impacting her not only physically, but also affecting other aspects of her life. Despite working hard to return from her surgery, Morgan began to feel disconnected from her pre-injury life and relationships. Because her identity was tied so closely to her sport, she began to feel isolated from her teammates. Rather than seeking help, Morgan remained silent. Similarly to many others struggling with mental health disorders, she was convinced that nobody would be able to understand the pain she was facing. Over the next year, Morgan's mental health rapidly declined, eventually culminating in her death by suicide.

This story reflects the outcome that can evolve from poor mental health and student-athletes feeling

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uncomfortable to seek help (Morgan's Message, n.d.). Morgan's legacy, as well as the organization founded in her honor, now represent a push to change the narrative of mental health in sports.

### ***MENTAL HEALTH SUPPORT FOR ELITE STUDENT-ATHLETES***

Despite greater access to mental health support across the United States, there is still an issue that needs to be addressed; it is essential that early and consistent support is provided throughout the entirety of a student-athlete's career. This is particularly crucial for athletes who are facing problems associated with a long-term injury, but also important before athletes begin to face struggles. Particularly during rehab from an injury, mental health should be monitored alongside physical health, helping to reduce stigma and normalize emotional vulnerability (Chřretien, Hayotte, Vuillemin, & d'Arripe Longueville, 2024). Recovery programs that provide training to help athletes adapt more effectively to setbacks have been shown to enhance motivation and reduce stress (Podlog, Eklund, 2007). This could include mindfulness practices, visualization, and optimistic thinking, as well as promote help-seeking behaviors (Vella et al. 2020). Optimistic thinking would encourage athletes to seek hope and view their challenges as ways to improve. Mindfulness practices, like deep breathing and intentional awareness of one's surroundings, would teach student-athletes how to remain calm under stressful circumstances (Oler, Mainous, Martin, et al, 1996). Successfully practicing visualization would consist of an athlete mentally rehearsing a successful performance in a game or practice, or visualizing a complete recovery (Tranaeus et al., 2024). It would be helpful in reinforcing positive thoughts and could also increase motivation for recovery. Finally, promoting help-seeking behaviors would encourage athletes to ask for assistance when needed. Making these practices a frequent aspect of athletic preparation would effectively reduce much of the stigma around being emotionally vulnerable and encourage student-athletes to prioritize their mental well-being just as they do their physical conditioning.

Furthermore, peer-led programs can be of great benefit in schools. Student-athletes acting as mental health ambassadors would allow them to educate teammates and classmates by sharing personal experiences, as well as to encourage open conversations. When these important messages come from peers rather than administrative figures, they may feel more trustworthy and reliable. For example, a Morgan's Message chapter has been successfully established at Rye Country Day School in Rye, New York. Regular meetings are held to educate the student body about the stigma surrounding mental health and an environment where students feel comfortable sharing their struggles has been fostered. This chapter also participates in fundraisers, dedication games, and t-shirt sales to raise awareness and financial support for the organization.

During periods of injury, student-athletes should be able to easily access licensed sports psychologists, counselors, or performance specialists. Sport specific-psychologists are important because they understand the unique pressures of athletic life. These professionals can provide injury-related therapy, coping strategies, and support that will help student-athletes cope with the emotional trauma that can stem from being injured. Coaches and family members of student-athletes can further support student-athletes by encouraging these positive interactions with mental health professionals, ensuring student-athletes feel comfortable seeking assistance (Gulliver et al., 2012). Online resources and anonymous helplines can also offer simple ways for student-athletes to check in with themselves or ask for help without a fear of

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judgment.

Changing the culture within sports communities is extremely important to improve the mental health of athletes. Having open discussions about mental health during team meetings, recruiting conversations, and one-on-one meetings will only make the message clearer that in addition to taking care of oneself physically as a student-athlete, one must also take care of themselves mentally. In order to reduce the stigma, mental health must be placed at the core of athletic programs for athletes of all ages. Integrating these conversations into the lives of young athletes will make an important difference for future generations. It would be helpful for student-athletes to share testimonials of their experiences in public campaigns as a reminder that nobody is alone in their struggles. Rather than exacerbating the athletes' issues and further putting them down, depicting realistic ideals of student-athletes in media could prove to be a big contribution in reducing stigma (Gulliver et al., 2012)

## **CONCLUSION**

At its core, this review emphasizes that maintaining positive mental health is a key component to the well-being of elite-student athletes. It is imperative to increase the focus on studying mental health and its relationship with athletic injuries. Specifically, there is much fewer data that represents the younger high school athlete population in comparison to collegiate athletes. Also, it would be beneficial for researchers to further study different coping strategies that exist across a broad range of sports, as some strategies may prove to be more effective in different areas. In short, a combination of increasing awareness, reducing stigma, and encouraging early intervention efforts will ensure that student-athletes feel more comfortable and supported. Future studies should incorporate sport-specific research and longitudinal data to better equip student-athletes for the psychological challenges that may arise before, during, and after injury.

Several consistent themes emerged across the literature. Student-athletes differ from other members of society. In order to juggle their demanding athletic and academic commitments, student-athletes must be more disciplined than their non-athlete counterparts. A constant state of being "on the go" causes student-athletes to face increased stressors, such as fear of disappointing others, fear of failure, physical exhaustion and potential "burnout", social isolation, and inadequate recovery time. For this reason, it is essential for the public to understand all of the unique challenges and pressures that athletes face, and to view them with a level of understanding, rather than scrutiny. A core concept of most articles was the importance of early intervention. They emphasized that attacking this issue at its root is necessary for holistic change. Although there were many possible ways to create change, promoting help-seeking behaviors consistently emerged as one of the most effective strategies. Yet, it remains underutilized due to stigma and lack of awareness.

Although promoting mental health awareness will create important change, in order to best support student-athletes it is necessary to create change at the institutional level. Most importantly, it should become mandatory for athletic staff members to be taught to recognize the warning signs of poor mental

health and to be equipped with appropriate responses to such situations. Workshops, for example, are a helpful way to educate adults on the importance of building supportive environments in athletics, ensuring that all athletes feel seen and heard. Another way that athletes can be better supported is by instituting more flexible training and academic accommodations. More built-in rest periods should be implemented in order to prevent burnout, especially when athletes are injured or dealing with increased stress. In extenuating circumstances, it could also be beneficial to allow an athlete a “mental health day”, where they could take the time they need to ground themselves, rather than continuing to feel a loss of control over their own lives. These seemingly small additions to their everyday life will promote the overall well-being of the athletes, rather than simply focusing on their performance on the field. In order to ensure that these policies are properly implemented, accountability measures for the coaches must be put in place.

Finally, it is evident that recent research written in respect to student-athlete mental health should become more attainable and actionable. Such findings should not be limited to academic journals, rather they should be integrated into everyday life: locker rooms, athletic departments, and even youth sports programs. In order to best prepare and support future generations, mental health education should be normalized starting at a young age. For example, routine check-ins should be implemented by coaches, trainers, and sports mentors. By making such meetings regular, these young men and women will have the chance to share how they feel both mentally and physically in an environment that does not feel threatening. This extensive integration with many different aspects will construct a stronger society whose members are aware that the demands involved in playing sports at a high level can pose mental health risks, as well as members who are unafraid to seek assistance for themselves or help someone else when necessary.

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