



# Literature Review of The Influence Psychosocial Factors on Sports Injuries

Satria Eureka Nurseskasatmata<sup>1\*</sup>, Heri Wahyudi<sup>1</sup>, Soni Sulistyarto<sup>1</sup>, Abdul Aziz Hakim<sup>1</sup>, Dita Yuliastrid<sup>1</sup>

<sup>1</sup> Faculty of Sport and Health Sciences, Universitas Negeri Surabaya, Surabaya, Indonesia

[nsnurseskasatmata@unesa.ac.id](mailto:nsnurseskasatmata@unesa.ac.id)

**Abstract.** Psychosocial factors, including stress, anxiety, and fear of re-injury, significantly influence sports injuries. These factors can hinder athletes' recovery and performance. Psychological interventions, such as stress control and mindfulness practices, are crucial for effective rehabilitation. Understanding these factors and integrating them into injury prevention and rehabilitation practices can improve athletes' recovery. The study searched electronic databases, injury predictive reviews, and prospective designs to monitor injury, define acute/traumatic injuries, and investigate the relationship between psychological and psychosocial factors. The study searched top research databases for studies on sports injury, psychological influence, and psychosocial factors. It included peer-reviewed journals, athletes/competitors/sports players, and between 2020-2024. Six papers were included, with 4 excluded. The meta-analysis of injury prediction variables found that stressor history and response variables have the strongest relationships with injury rates. Prolonged stress can change brain neurological networks, leading to decreased information flow and poor decision-making. Negative stress associated with events has the strongest associations with injury rates. Low social support is associated with increased injury risk. Psychosocially-based interventions should include stress management skills and psychological training programs to reduce injury risk. Future research should measure other biopsychosocial sport injury risk variables.

**Keywords:** sports injury, psychological influence, psychosocial influence, psychosocial factors

## 1 Introduction

Psychosocial factors significantly influence sports injuries, affecting both the risk of injury and the rehabilitation process. Psychological elements such as stress, anxiety, and fear of re-injury are notable predictors of sports injuries, with high stress and anxiety levels correlating with increased injury risk and severity [1], [2]. Athletes often experience negative emotional responses like sadness, anger, and depression following injuries, which can hinder their recovery and return to sport [3], [4]. The fear of re-injury and self-doubt during competition are common psychological barriers that can delay rehabilitation and affect performance [5], [6]. Moreover, maladaptive coping strategies and a lack of social support can exacerbate these issues, making psychological interventions crucial for effective rehabilitation [7]–[9]. Psychological readiness and perceived social support are essential for a successful return to sport, as they help mitigate re-injury anxiety and enhance recovery outcomes [10]. Additionally, psychological interventions, such as stress control strategies and mindfulness practices, have been shown to reduce injury rates and improve rehabilitation outcomes, highlighting the need for their integration into injury prevention programs [10], [11]. The interplay between psychological and physical health is complex, and addressing

psychological factors is vital for optimizing patient care and surgical outcomes in injured athletes [10], [12]. Personal and situational factors, including personality, gender, and the motivational climate, also play a role in shaping athletes' psychological responses to injuries, indicating that a tailored approach is necessary for effective rehabilitation [11]. Overall, a comprehensive understanding of these psychosocial factors and their integration into injury prevention and rehabilitation practices can significantly enhance athletes' recovery and performance [13].

The electronic databases Springer Link, PubMed, Taylor & Francis, ResearchGate, Science Direct as well as two earlier injury predictive reviews were searched. The inclusion criteria were (a) prospective designs that continuously monitored injury during the study period, (b) defined injury as acute/traumatic, (c) investigated the relationship or predictive effect between psychological and/or psychosocial factors and injury in sport.

## **2 Method**

We searched the electronic database of Springer Link, PubMed, Taylor & Francis, Research Gate Science Direct, these were selected to give a sizeable range for capture across contexts and are acknowledged as the top research databases. A combination of the following keywords was used: "Sports injury," "psychological influence," "psychosocial influence", "psychosocial factors". These terms encompassed a broad array of subjective experiences that would indicate a heightened risk for injury in one of the contexts of interest because of psychological or psychosocial factors. Reference lists were searched for any additional research that would be eligible for inclusion.

Studies were considered for inclusion if they were (1) published in peer-review journals; (2) published between 2020 and 2024; (3) investigated psychosocial factors of sports injury; (4) investigated psychological factors of sports injury; and (5) the population sample was athletes/competitors/sports players.. A review of the abstract identified an additional study that failed to meet the inclusion criteria, leaving 10 studies. These studies were read, and 4 were excluded for not meeting one or more of the inclusion criteria. The following 6 papers were used for this review" (see Table 1).

## **3 Results and Discussions**

The outcome derived from the meta-analysis conducted on injury prediction variables indicated that the history of stressors, alongside the stress response variables, exhibited the most robust correlations with injury rates. One plausible rationale behind the heightened relationships observed stress variables and injury is the potential of prolonged stress to instigate alterations in the operational dynamics of the brain's intricate neurological networks [14]. Such modifications in network activation and communication pathways could potentially result in a reduction in the information exchange among the brain functions responsible for processing emotions and thoughts [15]. The susceptibility to impaired decision-making under stressful circumstances such as competitive situations, where a decline in decision-making abilities has been linked to heightened injury vulnerability [16].

The vast majority of research endeavors have unearthed a statistically significant positive link between various stressors (e.g., intense life stress, adverse life stress, daily challenges) and the propensity for sustaining injuries [17], underscoring the pivotal role

stress plays in the genesis of injuries. A fundamental underpinning for this association lies in the potential for prolonged stress to induce alterations in the neural networks within the brain [18].

**Table 1.** Research Matrix

Author & Year	Article Title	Objective	Result	Conclusions
<b>Han (2023) [3]</b>	Psychological prevention and treatment and rehabilitation for sports injuries	Psychological factors like stress, psychological needs, and reactions to injury influence sports injuries. Understanding and addressing these factors are crucial in prevention, treatment, and rehabilitation of sports injuries.	Psychological factors related to sports injuries are discussed. Psychological approaches in treatment and rehabilitation are summarized.	Psychological factors contribute to sports injuries. Psychological interventions aid in prevention and rehabilitation
<b>Aydoĝan (2022) [9]</b>	Evaluation of the Psychological Effects of Sports Injuries	Psychological effects of sports injuries include anger, depression, anxiety, lack of self-confidence, fear of re-injury, and impact on performance, emphasizing the need for psychological support in addition to medical treatment.	Six themes were identified from the experiences of athletes with serious sports injuries. Psychological support is recommended for athletes in the medical treatment process.	Psychological support is necessary for athletes with serious sports injuries. Coaches, friends, and families should provide support and encourage athletes to seek psychological support.
<b>Erickson (2022)[10]</b>	Psychological Interventions Can Reduce Injury Risk in Athletes: A Critically Appraised Topic	Psychological interventions can effectively reduce sports-related injury risk by addressing psychosocial factors in athletes, making them crucial for injury prevention programs implemented by athletic trainers/therapists.	Psychological interventions reduce sports-related injuries in all athletes. Grade B evidence supports psychological intervention strategies in injury prevention	Psychological interventions can effectively reduce sports-related injury risk. Athletic trainers/therapists should consider integrating psychological disciplines in injury prevention practices.
<b>Pal et al (2021) [5]</b>	Influence of Stress and Anxiety on Sports Injuries in Athletes	Stress and anxiety are significant psychosocial factors influencing the risk, frequency, and severity of sports injuries among athletes, as highlighted in the research	Stress and anxiety are associated with predicting sports injuries. Stress and anxiety can influence injury risk and severity.	Stress and anxiety are associated with predicting sports injuries. Stress and anxiety can influence injury risk, frequency, and severity
<b>Haralds dottir (2021) [23]</b>	Psychosocial Impacts of Sports-related	Psychosocial factors can significantly impact sports injuries in adolescent	The paper examines the psychosocial impact of sports	Psychological consequences of sports injuries are significant.

	Injuries in Adolescent Athletes	athletes, affecting return to play, reinjury risk, and mental health outcomes, as highlighted in the research.	injuries in youth athletes. The paper aims to identify areas of future research and aid clinicians in managing this population.	More research needed on youth athlete outcomes.
<b>Williams et al (2020) [24]</b>	The Role of Optimism and Psychosocial Factors in Athletes Recovery From ACL Injury: A Longitudinal Study	Psychosocial factors, including optimism, impact athletes' recovery from ACL injury by influencing rehabilitation adherence and perceived knee function up to 12 months post-surgery, as shown in a longitudinal study.	Pre-surgery optimism had a significant overall indirect effect on perceived knee function at 12 months post-surgery. Pre-surgery optimism had specific indirect effects through secondary appraisal, efficacy, and rehabilitation adherence at different time point	The study provides support for previously untested hypothesized relationships within the integrated response and biopsychosocial models. The study highlights the mechanisms by which positive outcome expectancies are translated into adaptive behavioral responses during rehabilitation.

With regard to the findings stemming from the moderator analysis concerning the historical stressors variables, the outcomes demonstrated that it was the stress emanating from adverse occurrences (e.g., negative life events stress, hassles, prior injuries) that exhibited the most robust connections with injury rates [19], surpassing the associations observed with more positively valenced events (e.g., total life events stress, positive life events stress) [20].

Explorations into the realm of social support unveiled that inadequate levels of social backing were correlated with escalated injury susceptibility, while also exerting a moderating influence on the stress-injury nexus [21]. Conversely, the experience of insufficient social support is posited to render athletes more susceptible to heightened stress levels, thereby amplifying the risk of sustaining injuries [22].

Social support was identified as a prospective risk element, with the majority of investigations relying on a sole measurement wave to scrutinize the impact of social support on injury vulnerability. Generally, the findings presented a mixed outlook on the interplay between social support and injury occurrence. The provision of social support from coaches, family members, and healthcare providers is deemed crucial in aiding athletes in navigating the challenges associated with injury recovery and adhering to the demands of their rehabilitation protocols.

#### 4 Conclusion

The correlation mentioned earlier suggests that stress can increase an individual's vulnerability to sports injuries, while injuries can make the individual more susceptible to stress. The different stages that an injured athlete needs to go through involve an adaptive process in which the individual faces challenges that go beyond their normal

physical abilities. Stress, which the injured person experiences, can appear at any time, starting from the moment of the injury, continuing through rehabilitation, and up to the point of returning to training and competition. Besides stress, various psychological and emotional factors are intertwined with sports injuries, directly impacting the athlete's recovery journey.

Assessing the information that is currently known about the ailment and its effects is the first step in providing psychological support to an injured athlete. Frequently, the degree of the injury has less of an impact on the person's emotional health than do questions about how long recovery will take, ambiguous daily goals, and other related concerns. As a result, it is the common responsibility of all experts assisting the athlete to offer psychological support within their specialized fields.

Therefore, it becomes imperative to use a multidisciplinary strategy to guarantee the psychological well-being of the athlete. Even while individual elements are significant, other people can offer methods that have a significant positive impact on the mental health of athletes. Athletes who suffer from injuries can experience worry and stress due to a variety of factors, including the severity of the ailment, the interruption of their daily routine, or persistent issues in their lives. Social support, which can take three different forms, is identified as an essential element in the psychological aspect. The sports team, the medical staff, and close friends and family all provided assistance.

Behaviors are believed to play a mediating role in the relationship between cognitive constructs and the risk of injury. It has been proposed that considering behavior is crucial when examining the connection between risk factors that make athletes more prone to injuries and the actual outcomes of those injuries, as indicated in models such as the comprehensive model for injury causation. To align our study's results with the comprehensive model for injury causation, we propose the inclusion of personality factors, such as anxiety, as internal elements that could predispose athletes to injury risk. When it comes to life event stress, particularly the intensity of the stress response involving neurocognitive processes, these factors seem to influence the susceptibility of athletes to experiencing injuries.

Psychological and sociocultural risk factors are identified as separate and/or combined factors that contribute to the development of sports injuries, and the discussion will follow the structure of our results. Subsequently, we delve into potential future methodological advancements based on insights gained from the review of existing literature. Despite some studies supporting the impact of social support on the injury process, a few studies have yielded non-significant results, possibly due to various reasons. It has been suggested within the social support research that measures should be tailored to the specific situational context and include additional items to address the unique support needs of the target population, a task that can be complex when studying athletes across different sports and environments.

Given the apparent significance of stress in the biopsychosocial framework related to injury incidence, interventions targeting stress management skills should be integrated into psychosocial-based programs. Incorporating psychological training initiatives into various injury prevention strategies, such as biomechanical and strength training programs in sports, holds promise in reducing the risk of sports-related injuries and yielding positive outcomes for athletes, sports clubs, and communities. Moving forward, it is recommended that upcoming research explore additional biopsychosocial variables linked to sports injury risk to supplement those proposed in stress and athletic injury models.

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