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RESEARCH ARTICLE

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THE IMPACT OF MINDSET AND LIFESTYLE ON METABOLISM AND IMMUNITY FOR SPORTS PERFORMANCE: A CONCISE SYSTEMATIC REVIEW

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ABSTRACT

Introduction: In the scenario of athletes' mindset and performance, the athlete's lifestyle becomes an integral part of this development. It is necessary to focus on the athletes' mindset, exploring the perspective of elite athletes through a qualitative approach, to understand the lifestyle and other factors to which they attribute their success. It is also necessary to manage the training load with a mindset of performance and training progression. **Objective:** To present the main studies on the positive influence of mindset on athletes' performance, as well as the entire lifestyle scenario for this development. **Methods:** The present study was followed by a systematic literature review model, according to the PRISMA rules. The research was carried out from July 2021 to September 2021. The quality of the studies was based on the GRADE instrument. The risk of bias was analyzed according to the Cochrane instrument. **Results and Conclusion:** A total of 94 articles were found, 58 articles were evaluated and 37 were rejected for not meeting the GRADE classification, and only 21 articles were used in this study to compose the textual part. Studies have shown that certain mindsets, such as believing in yourself after failure (called the building mindset) are very beneficial to athletes' perseverance, motivation, and performance improvement. Studies also associate the positive influence of mindset on athletes' performance, showing that mental skills training can lead to better performance in competition. Thus, champion athletes attribute their good mindset (psychological) as the main predictor of competitive success. However, more education needs to be facilitated for coaches and support staff in the area of athletes' psychological skills.

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INTRODUCTION

In the scenario of athletes' mindset and performance, the athlete's lifestyle becomes an integral part of this development (Russell, 2019; Fernández-Río, 2017). There is a need to balance various factors such as competitive demands, stressors, negative unlucky events, interactions with family, peers, coaching, and support staff (Fletcher, 2012; Stambulova, 2015; Gulbin, 2013; Mountjoy, 2015; Wylleman, 2010; Weissensteiner, 2017). In this sense, lifestyle practices and daily routines such as sleep, relaxation, diet, hydration, water immersion therapy, entertainment, and social media are therefore essential to achieving and maintaining elite performance.

Therefore, the quest to improve the performance of world-class athletes involves understanding the attributes, skills, strategies, support, environment, and lifestyles of elite athletes (Russell, 2019). In this context, international sports agencies such as the International Olympic Committee suggest that support for an athlete should be holistic, integrated, and evidence-based (Bergeron, 2015). In this sense, it is necessary to focus on the athletes' mindset, exploring the perspectives of elite athletes through a qualitative approach, to understand the lifestyle and other factors to which they attribute their success (Burns, 2019). Also, training load monitoring has many potential applications and cannot simply be reduced to a metric and/or calculation.

It is important to emphasize that it is also necessary to manage the training load with a performance and training progression mindset (West, 2020). For example, feeling confident has been shown to improve cognition and performance, while lack of confidence (eg, feeling powerless, anxious) is stifling for cognition and performance (MacNamara, 2010a; MacNamara, 2010b). In addition, it has been shown that certain mindsets, such as believing in yourself after failure – called the building mindset – are very beneficial for the perseverance, motivation, and performance improvement of athletes. Furthermore, feedback from teachers and coaches has demonstrated internal impact on athletes, including the influence of motivation, mindset, learning potential, and resilience to challenges (Henriksen, 2010; Martindale, 2007; Rees, 20116). Therefore, this study aimed to present the main studies on the positive influence of mindset on the performance of athletes, as well as the entire lifestyle scenario for this development.

METHODS

Study Design: The present study was followed by a systematic literature review model, according to the PRISMA rules (Transparent reporting of systematic reviews and meta-analysis-HTTP://www.prisma-statement.org/).

Data sources and research strategy: The search strategies for this review were based on the descriptors: “Athletes. Athlete performance. Mindset. Psychological”. The research was carried out from July 2021 to September 2021 and developed based on Google Scholar, Scopus, PubMed, Scielo, and Cochrane Library.

Study quality and risk of bias: The quality of the studies was based on the GRADE instrument, with randomized controlled clinical studies, prospective controlled clinical studies, and studies of systematic review and meta-analysis listed as the studies with the greatest scientific evidence. The risk of bias was analyzed according to the Cochrane instrument.

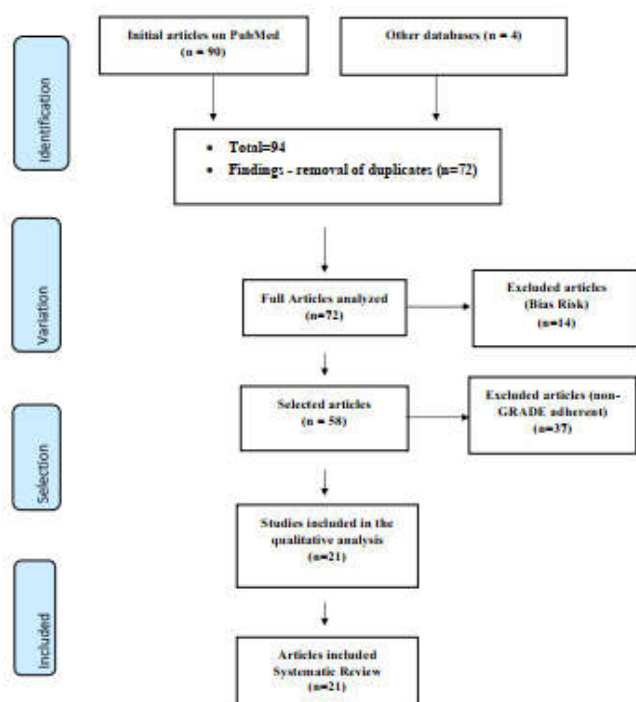


Figure 1. The selection process of scientific articles.

RESULTS AND DISCUSSION

Figure 1 shows that out of a total of 94 articles found, 58 articles were evaluated and 37 were rejected for not meeting the GRADE classification, and only 21 articles were used in this study to compose

the textual part. Based on the main literary findings, the popularity of sport psychology and mindset, both as an academic discipline and as an applied practice, has grown substantially in the last two decades. Few in the field of competitive athletics would discuss the importance of being mentally prepared before an athletic competition, as well as the need to maintain that particular mindset during competitive competition. There is still a lack of understanding about the process and mechanisms by which these mental abilities affect performance. Thus, a study described how mental skills training resulted in better performance within competition (Gee, 2010). In this context, champion athletes attribute their good mindset (psychological) as the main predictor of competitive success. Still, championship performance requires a particular way of life that integrates mindset, performance factors, lifestyle, and relationships. High-performance strategies include the use of sharp mental rehearsal skills and practice recovery (Russell, 2019). Still, the best in championship performance occurs at the intersection of a strong psychological profile, interpersonal support, and performance and lifestyle strategies. In this respect, it is up to the athlete's ability to shift focus within these domains through a tilt that can lean in many directions. This ability is adaptable through self-regulation. Thus, specific guidelines for athlete education ensure that performance and lifestyle strategies are used effectively. Still, it is necessary to facilitate greater education for coaches and support staff in the area of psychological skills of athletes (Fernández-Río, 2018).

Also in this scenario, the COVID-19 pandemic stands out, which directly impacts the athletes' training course, affecting their mindset and psychological aspects. The organizational consequences of isolation are lack of organized training and competition, lack of communication between athletes and coaches, inability to move freely, lack of adequate sun exposure, inadequate training conditions. Thus, athletes must redefine their mindset to understand isolation as an opportunity for development, organize adequate guidelines, educate and encourage athletes to apply adequate preventive behavior and hygiene measures to promote immunity and ensure good conditions of isolation from life. Mental fatigue must be anticipated and mentally controlled. Daily monitoring must be established (Jukic, 2020). Added to this, the change in lifestyle for an athlete is comprehensive and includes a change in mindset, training, work, entertainment and includes identity, self-image, and values. While elite athletic performance emphasizes the importance of socio-development, physical skills, sport-specific skills, and psychological factors, championship performance also requires a particular way of life that integrates mindset, performance, relationships, and lifestyle factors. The findings confirm the critical importance of an athlete's psychological profile, in particular their strong self-regulatory skills, coordinating and maximizing their learning and performance. Furthermore, authors have shown that a multidimensional psychological profile together with a social perception allows elite athletes to negotiate and manage stressors in high-performance sport (Fletcher, 2012). In this sense, social support is seen as a stress absorber and an integral part of building resilience (Freeman, 2009). It is critical to facilitate and enhance the relationships they form between peers, teammates, coaches, family, and team support throughout the elite athlete's journey. As such, personalized education is part of recognized performance and lifestyle strategies to ensure they are used effectively. At a high-performance level, the athlete's voice and powerful decision-making can be effective for athletic preparation and performance (Freeman, 2009). In this context, international sporting bodies advocate a holistic approach to athletic profile and environmental factors for world-class sporting performance. Thus, one study explored the contribution, impact of lifestyle, and psychological factors among a sample of world-class champion athletes. Four dominant themes emerged and overlapping psychological attributes, interpersonal relationships, performance strategies, and lifestyle practices. All athletes attributed their success to psychological rather than physical factors, and the vast majority relied on mental rehearsal skills and recovery practices. Therefore, the athletic profile and support needed to achieve and maintain performance at the podium level are multidimensional, integrated, and individualized, and psychological factors are fundamental.

In this regard, there is ample evidence that mindset and emotion affect the performance of athletes. Military and sports organizations have focused on optimizing the internal states of their military and athletes, respectively, to improve performance and well-being (Burns, 2019). Also, a study analyzed the complex interdependencies and temporal dynamics in these processes, their interrelationships with observed stimulation behavior, performance, and biochemical variables, as well as their performance level and variances dependent on competition outcomes. Twenty-three cyclists from different performance level categories engaged in individual competition time trials and face to face against an opponent with equivalent performance. Perceived mental and physical exertion was primarily associated with observed arousal behavior as needed to align the planned behavior with the current physiological state.

The change in mindset associated with an action crisis was mainly associated with a non-adaptive psycho-neuro-endocrinological distress response (Venhorst, 2018). Besides, videos of peak performance accompanied by music can help athletes optimize their pre-competition mindset. Preparation techniques can be incorporated into these videos to influence the athletes' motivational state. In this regard, one study examined the psychological and psychophysiological effects of video and music when used as a performance intervention for an anaerobic endurance task. Fifteen men (age = 26.3 ± 2.8 years) were exposed to four conditions before performing the Wingate Anaerobic Test: music only, video and music, video with music, and a control with no video/no music. The results showed that the combined conditions of video and music were the most effective in terms of influencing participants' pre-task effect and subsequent anaerobic performance, followed by the music-only condition (Loizou, 2015).

CONCLUSION

Studies have shown that certain mindsets, such as believing in yourself after failure (called the building mindset) are very beneficial to athletes' perseverance, motivation, and performance improvement. Studies also associate the positive influence of mindset on athletes' performance, showing that mental skills training can lead to better performance in competition. Thus, champion athletes attribute their good mindset (psychological) as the main predictor of competitive success. However, more education needs to be facilitated for coaches and support staff in the area of athletes' psychological skills.

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