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# Burnout and overtraining in elite athletes: Unresolved issues and avenues for future research

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Interest in the mental health of elite athletes has rapidly grown during the past years [1, 2]. The increased interest in this topic is mirrored in an increasing number of scientific sports psychiatric publications covering mental health among athletes, as well as consensus or position statements of the International Olympic Committee [3], the International Society of Sport Psychology [4], and the European Federation of Sport Psychology [5]. Recent reviews have focused on the accessibility and quality of services in relation to the mental health of elite athletes in different countries [5], or examined the effectiveness of mental health awareness programs [6]. It has also been highlighted that mental health affects athletes' career decisions and their ways and ability to cope with athletic and non-athletic stressors [4]. Despite a public view that elite athletes are perceived as super humans, scholars have also emphasized that due to high pressure and sport-specific transitions (e.g., injuries, periods of high training load, extensive travel or relocation to new cultural settings), elite athletes are equally vulnerable to develop mental problems as the broader population [7].

The present issue of Sports Psychiatry particularly focuses on the aspects related to athlete burnout and overtraining. Research on athlete burnout started in the early 1980s [8, 9]. Meanwhile, several models have been developed to explain athlete burnout [10]. Athlete burnout has been defined as a multidimensional syndrome characterized by a withdrawal from sport noted by a reduced sense of athletic accomplishment, devaluation/resentment of sport, and emotional/physical exhaustion [11]. Estimates

of the prevalence of athlete burnout vary greatly and generally range between 1% and 15% [10, 12, 13]. It should be noted, however, that estimating prevalence is difficult due to methodological issues related to different definitions and measures being used. Regardless, researchers assume that the percentage of elite athletes with burnout symptoms might even increase in the future due to increasing training loads, competition and pressure inside the elite sport setting [14]. Moreover, there are concerns that children start high-intensity training at increasingly young age [15], and that due to long seasons, the boundaries between the competitive season and off-season become less clear in many sports. As a consequence, getting sufficient time for recovery becomes more difficult, which increases the risk of overtraining syndrome [16, 17].

In the first article of the present issue, Gerber et al. present original research data from a study with 295 adolescent elite athletes who attend Swiss Olympic Sport classes. These athletes took part in a prospective survey, in which they provided information regarding their coach-athlete relationship appraisals and their burnout symptoms twice across a 6 to 10-month period. This study raises awareness that coaches are very influential as they interact with athletes in many situations including training, competition and outside the sport context [18]. In line with this notion, the results show that the coach-athlete relationship is related to athletes' mental health. Accordingly, coaches need the ability to develop effective relationships with their athletes, including thoughtful and respectful communication about issues specific to sport and life generally.

The second article by Smith et al. addresses the question whether European cycling federations implement programs that are specially dedicated to athletes' mental health. In total, 32 federations were considered. In summary, the results of this study highlight that improvement of athlete mental health is still in an early stage on a policy level. Important insights can be gained from those federations that have already established such programs to guide effective and tailored approaches.

The third article included in this issue by Kaiser et al. provides insights in the 2Steps4Health project, which is an initiative aiming to reduce the risk of mental illness and to enhance well-being in young athletes by empowering them to cope effectively with stressors. The program is specifically designed for athletes aged 12–21 years and will be evaluated by means of a (quasi) randomized study design. The authors point out which challenges might complicate the implementation of such a program, and how these potential problems can be solved.

The fourth article by Alvarez Pires et al. reviews recent advancements in research on athlete burnout. This paper highlights that although important progress has been made, five key issues remain unresolved. These concern particularly the multidimensionality of the burnout syndrome, potential consequences of burnout, the role of recovery to prevent burnout, the social environment as a resilience resource and the development of effective interventions for the prevention or treatment of athlete burnout.

The fifth article by Haghighat and Stull provides an overview of current research related to overtraining syndrome from a sports psychiatric perspective. This review highlights the need for appropriate recovery in order to avoid decreases in athletic performance during periods of increased training loads. The authors point out that overtraining syndrome is typically preceded by stages of underperformance that need to be recognized and managed to prevent long-term negative outcomes.

In the sixth article, Cho and Im present the findings of a case study, in which the bidirectional association between sleep problems and recovery was explored in a 16-year-old female elite athlete. This case report makes readers aware of the potential relevance of a comprehensive sleep-wake assessment in adolescent athletes to accurately diagnose sleep disorders in the context of overtraining.

In the last part of this issue, an overview is given over three contributions that were presented at the 15<sup>th</sup> "Sport and Exercise Psychiatry Special Interest Group" (SEPSIG) meeting held at the Royal College of Psychiatrists in London in November 2023. These abstracts show that sports psychiatry is a broad field that goes far beyond the prevention of burnout, overtraining and other mental health problems. At last year's conference, one contribution focused on the extent to which the presence of ADHD can be beneficial

or detrimental to the career of professional rugby players. A second contribution evaluated the level of compliance with NICE guidelines for the assessment and documentation of physical activity in newly admitted patients in acute, male, general adult psychiatric ward, whereas a third contribution examined the potential role of yoga sessions in improving treatment of unhealthy exercise in inpatients with eating disorders.

With this first issue of Sports Psychiatry in 2024, we hope to provide a broad overview of the topics of athlete burnout and overtraining syndrome while showing ways in which the mental well-being of athletes can be improved interprofessionally, and with knowledge from different disciplines. We also hope that this issue will stimulate further research in this field. In particular, we believe that close cooperation between coaches, parents, physicians, sports psychiatrists, sports psychologists, and sports physicians is essential in order to prevent mental health problems and, in the case of existing complaints, to guarantee the most efficient treatment possible.



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