





# Nuances in key constructs need attention in research on mental health and psychiatric disorders in sports medicine

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The WHO<sup>1</sup> defines mental health as ‘a state of well-being in which an individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his or her community’ (p. 12). According to this definition, mental health is more than a lack of symptoms of mental ill-being or disorders. Variations in mood and perception of symptoms, also with aversive valence, may occur during regular participation in competitive sports. This editorial discusses the importance of acknowledging nuances in studies of mental health and psychiatric disorders in sports medicine and calls for a deepened understanding of ‘mental health’ and how various mental health symptoms and disorders are reported.

## PSYCHIATRIC DISORDERS IN ELITE ATHLETES AND HIGH-PERFORMANCE COACHES

The occurrence of psychiatric disorders among treatment-seeking Swedish elite athletes and high-performance coaches was recently reported in *BMJ Open Sport & Exercise Medicine*.<sup>2</sup> While acknowledging the importance of this research, the article exemplifies the need of a more careful conceptualisation of mental health and psychiatric disorders among athletes and coaches. Researchers must be cautious about methodological challenges, such as definitions of mental health constructs, symptom severity cut-off levels and functional impairment, to avoid misrepresenting the incidence and prevalence of mental health disorders at different levels. Insufficient attention to such nuances may overestimate problems related to psychiatric disorders or underestimate milder and non-clinical mental health issues requiring support efforts other than psychiatric care.

## ‘NATURAL’ VARIATIONS IN MENTAL HEALTH VERSUS PSYCHIATRIC DISORDER

Mental health is a complex construct to define in sports research, with several theoretical approaches commonly adopted.<sup>3</sup> In all sports settings, it is natural to experience short-term stress reactions that are, for example, related to temporary setbacks, injuries, career dissatisfactions, performance plateaus, training settings or competitions. Generally, little attention is paid to the complexity of separating mental states usually associated with performance issues from mental illness and psychiatric disorders.<sup>3</sup> The influence of life events on an individual’s mental health is complex and depends on psychosocial factors such as socioeconomic status and general living conditions.<sup>4</sup> Thus, factors outside of sport also affect an athlete’s mental health.<sup>4,5</sup>

As Åkesdotter *et al*<sup>2</sup> reported, anxiety and depression are the most commonly self-reported symptoms of affected mental health in sports settings.<sup>6</sup> Nonetheless, observation of occasional depressive symptoms does not, from a clinical perspective, justify a diagnosis of depression.<sup>7</sup> The symptoms may reflect healthy reactions to stress or specific life events in and outside a sports setting. Despite the availability of symptom-based criteria to diagnose depression, several criteria resemble symptoms found in non-pathological reactions to stressors or losses in life with a risk of false-positive diagnoses and mental suffering within normal boundaries misclassified as a psychiatric condition.<sup>8–10</sup> Therefore, in any sports medicine setting, it is crucial to remember that an athlete who experiences decreased mental health does not necessarily have a psychiatric disorder and that a total absence of symptoms cannot be expected. For example, a recent study in a global cohort of young athletics athletes reported a 5.6% prevalence of depression caseness defined as a

vulnerability for depression. At a close examination, the prevalence is comparable to typical prevalence rates reported from general populations using the same case definition.<sup>4</sup>

The lack of details regarding case definitions may also mislead the reader. For instance, two classification systems, the Diagnostic and Statistical Manual of Mental Disorders and the International Statistical Classification of Diseases and Related Health Problems system, are currently used to guide the clinical diagnosis process. No internationally agreed-upon standardised clinical processes are available to establish a psychiatric diagnosis. A diagnosis recorded in a health information system may have been specified using structured, diagnostic interviews, like the Mini-International Neuropsychiatric Interview (MINI) interview used in the study by Åkesdotter *et al*<sup>2</sup> or the Structured Clinical Interview for DSM (SCID) interview,<sup>11</sup> but may also have been based solely on a clinical examination.<sup>12</sup> In addition, psychiatric disorders (eg, anxiety disorders) can share aetiology and common symptoms but there is no consensus on a definition of what constitutes ‘a comorbid psychiatric disorder’. Decisions of what to classify as a primary or secondary diagnosis is left open to the individual clinician’s interpretation, skills and judgement.<sup>13</sup>

Finally, the epidemiological measures and how they are presented to the readers require careful attention. For example, in Åkesdotter *et al*,<sup>2</sup> the main results presented are the prevalence of different diagnosed psychiatric disorders in elite athletes, and high-performance coaches admitted to clinics dedicated to sports psychiatry. However, the number of treatment episodes during 6 years (n=255) is also used with the total number of Swedish elite athletes (n=3072) and high-performance coaches (n=977) in 2019 for estimating the population prevalence of psychiatric morbidity (7%). This 6-year prevalence is compared with the 2020 one-year prevalence of contacts with specialised psychiatric care in the general population in Sweden (5.2%). The validity and relevance of comparing the 6-year prevalence of psychiatric treatment episodes in sportspersons with the 1-year prevalence of contacts with specialised psychiatric care in the general population can be questioned. In addition, all studies reporting clinical register data should carefully describe the setting where treatment is provided to help readers understand factors that may affect the results. For example, local administrative routines and available resources typically affect the number of visits.

## NUANCED VIEWS ON KEY CONCEPTS ARE NEEDED IN CONCURRENT RESEARCH ON ATHLETE MENTAL HEALTH

Besides separating normal variations in well-being from psychiatric disorders, research on mental health in sports medicine is expected to include perspectives such as equity, mental health literacy, prevention of injuries and support to victims with experiences of abuse.<sup>4,14</sup> In this setting, the study of ‘mental health’ requires optimal clarity regarding the definitions and procedures being used. Purcell *et al*<sup>1</sup> highlight that a framework for mental health research that fails to represent the research context adequately may potentially pathologise athletes. We agree and want to stress

the importance of carefully paying attention to nuances in key concepts in contemporary systems-oriented mental health research in sports medicine.

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### REFERENCES

- 1 WHO. *Promoting mental health: concepts, emerging evidence, practice*. Geneva: World Health Organization, 2004. <https://apps.who.int/iris/bitstream/handle/10665/42940/9241591595.pdf>
- 2 Åkesdotter C, Kenttä G, Eloranta S, *et al*. Prevalence and comorbidity of psychiatric disorders among treatment-seeking elite athletes and high-performance coaches. *BMJ Open Sport Exerc Med* 2022;8:e001264.
- 3 Lundqvist C, Andersson G. Let’s talk about mental health and mental disorders in elite sports: a narrative review of theoretical perspectives. *Front Psychol* 2021;12:700829.
- 4 Timpka T, Dahlström Ö, Fagher K, *et al*. Vulnerability and stressors on the pathway to depression in a global cohort of young athletics (track and field) athletes. *Sci Rep* 2022;12.
- 5 Purcell R, Gwyther K, Rice SM. Mental health in elite athletes: increased awareness requires an early intervention framework to respond to athlete needs. *Sports Med Open* 2019;5:46.
- 6 Gouttebarge V, Castaldelli-Maia JM, Gorczynski P, *et al*. Occurrence of mental health symptoms and disorders in current and former elite athletes: a systematic review and meta-analysis. *Br J Sports Med* 2019;53:700–6.
- 7 Wakefield JC, Schmitz MF. Uncomplicated depression is normal sadness, not depressive disorder: further evidence from the NESARC. *World Psychiatry* 2014;13:317–9.
- 8 Wakefield JC, Wakefield JC. Dsm-5, psychiatric epidemiology and the false positives problem. *Epidemiol Psychiatr Sci* 2015;24:188–96.
- 9 Wakefield JC, Schmitz MF. When does depression become a disorder? using recurrence rates to evaluate the validity of proposed changes in major depression diagnostic thresholds. *World Psychiatry* 2013;12:44–52.
- 10 Paris J. *The intelligent clinician’s guide to DSM-5*. 2nd ed. New York, NY: Oxford University Press, 2015.
- 11 Shankman SA, Funkhouser CJ, Klein DN, *et al*. Reliability and validity of severity dimensions of psychopathology assessed using the structured clinical interview for DSM-5 (SCID). *Int J Methods Psychiatr Res* 2018;27:e1590.
- 12 Pettersson A, Boström KB, Gustavsson P, *et al*. Which instruments to support diagnosis of depression have sufficient accuracy? A systematic review. *Nord J Psychiatry* 2015;69:497–508.
- 13 Fava GA, Tossani E, Bech P, *et al*. Emerging clinical trends and perspectives on comorbid patterns of mental disorders in research. *Int J Methods Psychiatr Res* 2014;23 Suppl 1:92–101.
- 14 Bu D, Chung P-K, Zhang C-Q, *et al*. Mental health literacy intervention on help-seeking in athletes: a systematic review. *Int J Environ Res Public Health* 2020;17:7263.

