Scoping Review

Mental Health in Competitive Athletes: A Scoping Review of Risks, Resilience, and Psychological Outcomes Compared to Non-Athletes

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ABSTRACT

Competitive athletes experience psychological stressors that may be associated with mental health outcomes. Sports participation has been reported to be associated with emotional regulation and social self-efficacy, while participation at elite or varsity levels has been examined in relation to outcomes such as eating disorders, perfectionism, and capability for suicide. This scoping review synthesizes evidence from five studies comparing mental health outcomes between athletes and non-athletes. The limited number of included studies reflects the strict eligibility requirement for direct athlete versus non-athlete comparisons, a research focus that remains underrepresented in the existing literature. The review was conducted in accordance with the PRISMA-ScR to ensure methodological transparency and systematic reporting. The included studies describe both risk factors and protective factors associated with athletic participation, with particular attention to differences across sport type and level of competition. The findings highlight the relevance of considering athlete subgroups, including those participating in high-impact or aesthetic sports. Further research is required to examine mental health outcomes across more diverse demographic groups and to assess longer-term psychological outcomes beyond active competitive participation.

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Introduction

Background

Participation in sports has been reported to be associated with both short- and long-term mental health outcomes, including psychological well-being (Eather et al., 2023). Research conducted in student populations has shown that student-athletes report higher academic achievement, lower levels of anxiety and depression, and higher overall quality of life compared with non-athletes (McGuine et al., 2020). In the context of this literature, the term **elite athletes** is used to refer to individuals participating in organized competitive sport at higher levels of performance and commitment, including varsity collegiate athletes and athletes competing at national or professional levels. These athletes have been examined in prior research in relation to factors such as injury exposure, performance pressure, stigma surrounding mental health, and challenges associated with athletic retirement (Poucher et al., 2021). As such, understanding mental health outcomes in athletes requires comparisons between athletes and non-athletes, as well as consideration of differences across levels of competition.

Significance

Examining mental health outcomes among elite athletes is relevant for informing the development of mental health interventions tailored to athletic populations and for contributing to broader public health efforts addressing mental health in physically active populations.

Objectives

The objective of this scoping review is to synthesize evidence on mental health outcomes reported in competitive and varsity athletes, compared with non-athletes, to identify factors that have been examined in relation to mental health risk and resilience within athlete populations.

Methods

Study Design

This study is a scoping review synthesizing evidence on mental health disorders among competitive and varsity athletes compared to non-athletes. While several of the included studies employed quantitative methodologies, a qualitative thematic analysis was conducted to synthesize findings across studies and identify recurring patterns in reported risk and protective factors. The review follows the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews) guidelines to ensure transparency and methodological rigour.

Data Sources and Search Strategy

A comprehensive literature search was conducted across multiple electronic databases, including PubMed, PsycINFO, Scopus, and Web of Science. The search strategy incorporated a combination of Medical Subject Headings (MeSH) and keywords related to mental health (e.g., "anxiety," "depression," "eating disorders"), sports participation (e.g., "elite athletes," "varsity athletes," "non-athletes"), and psychological resilience (e.g., "mindfulness," "emotional regulation"). Boolean operators (AND/OR) were used to refine search queries. Grey literature and reference lists of relevant articles were also reviewed to identify additional sources.

Study Selection

A total of 160 references were imported for screening. Duplicate removal was conducted manually and through Covidence, identifying 2 and 75 duplicates, respectively. After removing duplicates, 83 studies were screened against title and abstract criteria, leading to the exclusion of 64 studies. Nineteen studies were assessed for full-text eligibility, of which 14 were excluded due to the following reasons:

- 4 were not in English
- 4 had the wrong study design
- 2 had the wrong comparator
- 2 involved the wrong intervention
- 1 focused on a paediatric population
- 1 reported the wrong outcomes

No studies were classified as ongoing or awaiting classification. Ultimately, 5 studies were included in the final analysis. The limited number of included studies reflects the strict inclusion criteria requiring direct comparisons between athletes and non-athletes, which remains relatively underexplored in the literature.

Data Extraction and Synthesis

Two independent reviewers (A.P. and S.S.) screened the titles and abstracts of retrieved articles. Full-text reviews were conducted for studies meeting the inclusion criteria. Discrepancies between reviewers were resolved through discussion to achieve consensus.

The following data were extracted from each included study:

- Study design and sample size
- Population characteristics (age, gender, level of competition)
- Mental health outcomes assessed (e.g., anxiety, depression, eating-disorder psychopathology)
- Psychological factors examined (e.g., mindfulness, perfectionism, social self-efficacy)

A qualitative thematic synthesis approach was used to organize and summarize findings across studies. Data extraction and thematic coding were conducted manually by the reviewers, given the small number of included studies. Following initial data extraction, findings were grouped according to recurring mental health outcomes and psychological factors reported in the studies. These groupings were iteratively reviewed and refined through discussion between reviewers to ensure consistency and alignment with the reported data. Themes were descriptive in nature and were derived directly from the outcomes and constructs explicitly reported in the included studies.

Key Findings and Thematic Insights

A qualitative thematic synthesis approach was employed to identify common patterns in mental health outcomes among different athlete subgroups. Thematic coding was used to extract key insights, and data were categorized into overarching themes. This approach allowed for an in-depth understanding of the subjective experiences of athletes regarding mental health challenges and resilience factors.

See Table 1

Data Analysis

Since this study is qualitative in nature, a meta-analysis was not performed. Instead, thematic analysis was employed to identify patterns and trends across studies. Themes related to mental health outcomes, coping mechanisms, and risk factors were identified, and findings were synthesized to provide a comprehensive understanding of the mental health landscape for competitive athletes.

Table 1: Summary of study design, sample characteristics, and key psychological outcomes in athletes and non-athletes.

Study	Study Design	Sample Size	Key Outcomes
Chapa et al., 2022	Meta-analysis conducted in accordance with PRISMA guidelines	The meta-analysis included 56 studies comparing female athletes and female non-athletes. Sample sizes varied across included studies (exact pooled participant count not reported as a single value).	The authors report that "Athletes reported lower levels of body dissatisfaction compared to non-athletes" ($g = -.21$, $p < .0001$)They further report that "Athletes and non-athletes reported similar levels of overall ED psychopathology, drive for thinness, restricting, and loss-of-control eating on average."Regarding sport type, the study states that "Effect sizes ... were larger for studies with athletes participating in aesthetic/lean sports compared to non-aesthetic/non-lean sports."
Dodd et al., 2021	Cross-sectional observational study conducted at a single timepoint	N = 153 undergraduate college students, including athletes and non-athletes.	The authors report that *"Athletes had greater capability for suicide (i.e., higher objective and subjective pain tolerance and greater fearlessness about death) relative to non-athletes."* They also report that *"Sports-related injuries were positively associated with both fearlessness about death and subjective pain tolerance"* and that *"level of contact in sport was positively associated with fearlessness about death."*
Somasunda-ram & Burgess, 2018	Cross-sectional quantitative study	N = 478 female undergraduate students, categorized as aesthetic-sport athletes, team/individual-sport athletes, or non-athletes.	The authors report that "Levels of perfectionism and disordered eating symptomology did not differ between groups." However, they state that "both athletic involvement as a whole and the type of sport played each moderated the relationship between dimensions of perfectionism and disordered eating."

Table 1: Summary of study design, sample characteristics, and key psychological outcomes in athletes and non-athletes.

Study	Study Design	Sample Size	Key Outcomes
Terres-Barcala et al., 2022	Cross-sectional descriptive study	N = 242 female athletes competing at university, national, or international levels.	The authors report that "Those athletes performing vigorous physical activity exhibited lower levels of impulsiveness and higher mindfulness traits." They further report that "the mindfulness trait was a mediating factor in the relationship between impulsiveness and each factor of competitive anxiety (cognitive, somatic, and self-efficacy)."
Yıldırım et al., 2024	Relational survey design (quantitative cross-sectional study).	The study included a total of 604 adolescent participants, comprising 302 athletes and 302 non-athletes	The authors report that "a moderate negative correlation was determined between the participants' social self-efficacy and social anxiety levels." They also report that "the social self-efficacy level of athlete participants was higher than non-athletes" and that "social anxiety levels did not differ statistically according to athletic status."

Results

Overview of Included Studies

The five included studies examined various mental health outcomes among athletes and non-athletes, with a focus on eating disorders, capability for suicide, perfectionism, anxiety, and social self-efficacy. Across studies, athlete subgroups such as aesthetic sport athletes, contact sport athletes, and varsity athletes exhibited distinct psychological patterns and vulnerabilities. The identified themes from the reviewed literature include eating disorder psychopathology, suicide risk, competitive anxiety and impulsivity, the influence of social self-efficacy on social anxiety, and perfectionism in relation to disordered eating symptomology.

The meta-analysis conducted by Chapa et al. outlines the complexity surrounding eating disorder (ED) psychopathology in female athletes versus non-athletes. Their research reveals variability across sport contexts, with some studies reporting elevated ED psychopathology among athletes in sports emphasizing leanness, while others report lower or non-significant differences compared to non-athletes (Chapa et al., 2022). These findings indicate that sport-specific characteristics meaningfully shape psychological outcomes rather than athletic participation alone serving as a uniform risk factor.

Dodd et al. investigated suicide-related risk constructs among college students in athletic versus non-athletic environments. Athletes, particularly those in contact sports, demonstrated greater exposure to pain and higher rates of disordered eating practices related to weight control (Dodd et al., 2021). These findings suggest that certain sport environments may contribute to psychological profiles characterized by increased pain tolerance alongside potential vulnerability to distress.

Terres-Barcala et al. explored the relationship between impulsivity and competitive anxiety in female athletes. Athletes engaged in vigorous physical activity exhibited lower impulsivity and higher mindfulness. Mindfulness mediated the relationship between impulsiveness and competitive anxiety across cognitive, somatic, and self-efficacy domains (Terres-Barcala et al., 2022). This highlights the role of psychological skill development within sport contexts.

Yıldırım et al. examined sports participation in adolescents and reported associations between sport involvement, increased social self-efficacy, and decreased social anxiety over time (Yıldırım et al., 2024). These findings suggest that structured sport engagement may contribute to positive psychosocial development during adolescence.

Somasundaram and Burgess investigated perfectionism and disordered eating symptomology within Division III athletes. Their findings demonstrate that perfectionistic tendencies interacted with sport participation to increase disordered eating behaviors (Somasundaram & Burgess, 2018). This suggests that personality traits reinforced within competitive environments may intensify specific psychological risks.

Overall, the included studies reflect a multidimensional mental health landscape in which athletic participation is associated with both vulnerability factors and protective psychological characteristics, depending on sport context and outcome domain.

Summary of Findings

Collectively, the results demonstrate that athletic participation is not uniformly protective or harmful with respect to mental health. Rather, outcomes appear to be shaped by sport type, level of competition, and underlying psychological traits. While engagement in sport is associated with mindfulness and social self-efficacy in some populations, participation in specific competitive contexts is examined in relation to eating-disorder psychopathology, perfectionism, and suicide-related constructs. These findings emphasize the importance of contextual and subgroup-specific analysis when evaluating athlete mental health.

Table 2: Thematic summary of included studies, highlighting key quotations and reported psychological outcomes across athlete and non-athlete samples.

Theme	Study	Quotations	Outcomes
Eating-disorder psycho-pathology	Chapa et al., 2022	"Athletes reported lower levels of body dissatisfaction compared to non-athletes (g = −.21, p < .0001). Athletes and non-athletes reported similar levels of overall ED psychopathology, drive for thinness, restricting, and loss-of-control eating on average."	Provides athlete vs non-athlete comparisons for ED-related outcomes.
Eating-disorder psycho-pathology	Chapa et al., 2022	"Effect sizes for ED psychopathology were larger for athletes participating in aesthetic/lean sports compared to non-aesthetic/non-lean sports."	Reports of sport-type differences are examined within athlete samples.
Capability for Suicide	Dodd et al., 2021	"Athletes had greater capability for suicide (i.e., higher objective and subjective pain tolerance and greater fearlessness about death) relative to non-athletes."	Provides comparative data on suicide-related constructs between athletes and non-athletes.
Capability for Suicide	Dodd et al., 2021	"Sports-related injuries were positively associated with fearlessness about death and subjective pain tolerance, and level of contact in sport was positively associated with fearlessness about death."	Identifies sport-related variables examined in relation to suicide capability.

Table 2: Thematic summary of included studies, highlighting key quotations and reported psychological outcomes across athlete and non-athlete samples.

Theme	Study	Quotations	Outcomes
Perfection-ism & disordered eating	Somasundaram & Burgess, 2018	"Levels of perfectionism and disordered eating symptomology did not differ between groups. However, both athletic involvement as a whole and the type of sport played each moderated the relationship between dimensions of perfectionism and disordered eating symptomology."	Examines perfectionism and eating pathology in athletes vs non-athletes, with athlete status treated as a moderator.
Competitive anxiety / emotional regulation	Terres-Barcala et al., 2022	"Those athletes performing vigorous physical activity exhibited lower levels of impulsiveness and higher mindfulness traits."	Reports psychological characteristics examined within athlete samples.
Competitive anxiety / emotional regulation	Terres-Barcala et al., 2022	"The mindfulness trait was a mediating factor in the relationship between impulsiveness and each factor of competitive anxiety (cognitive, somatic, and self-efficacy)."	Describes mechanisms examined in relation to competitive anxiety.
Social self-efficacy / social anxiety	Yıldırım et al., 2024	"The social self-efficacy level of athlete participants was higher than that of non-athletes."	Identifies sport-related variables examined in relation to suicide capability.
Social self-efficacy / social anxiety	Yıldırım et al., 2024	"Social anxiety levels did not differ statistically according to athletic status."	Reports null group differences for social anxiety outcomes.

Discussion

Athletes Compared With Non-Athletes

The findings of this review suggest that athletic participation interacts with mental health in complex and context-dependent ways. Rather than supporting a single directional relationship, the evidence indicates that sport involvement may amplify pre-existing personality traits, reinforce psychological skills, or expose individuals to stressors unique to competitive environments. Comparisons between athletes and non-athletes, therefore, appear most meaningful when interpreted within the structure and demands of the sporting context.

Amateur Athletes

Among amateur or non-elite athletes, the reviewed literature points toward the development of psychological skills such as mindfulness and social self-efficacy. These characteristics may reflect the structured social environment, goal orientation, and team-based interaction inherent in sport participation. Importantly, these findings suggest that regular athletic involvement may contribute to regulatory processes and interpersonal competence, particularly in adolescent and collegiate populations. At the same time, the interaction between perfectionism and sport participation indicates that even non-elite environments can reinforce maladaptive traits when performance standards become internalized in rigid or self-critical ways.

Elite Athletes

In more competitive or high-exposure contexts, sport environments may introduce unique psychological pressures. Elevated capability-for-suicide constructs observed in contact sports may reflect habituation to pain and repeated injury exposure, raising questions about how physical adaptation interacts with psychological risk. Similarly, the prominence of eating-disorder psychopathology within lean or aesthetic sports underscores how performance cultures centered on body composition may intensify vulnerability among certain athletes. These findings suggest that elite environments may magnify both adaptive and maladaptive psychological processes, depending on the norms and expectations embedded within the sport.

Subgroups of Elite Athletes and Public Health Implications

The variation across sport subtypes reinforces the need to interpret athlete mental health within specific performance cultures. Contact sports and aesthetic sports present distinct psychological profiles, implying that risk mechanisms differ across athletic contexts. This differentiation supports a tailored public health approach rather than broad generalizations about athletes as a homogeneous group.

Similarly, athletes participating in lean or aesthetic sports have been examined in relation to body dissatisfaction and eating-disorder psychopathology (Chapa et al., 2022). These findings underscore the importance of interventions that address weight- and appearance-related pressures within sport environments, such as coach education, screening protocols, and access to specialized mental health support. Programs that emphasize performance, functionality, and well-being rather than weight or appearance may be particularly relevant for these subgroups.

Taken together, these subgroup differences reinforce the need for structured mental health screening, early prevention strategies tailored to sport-specific risks, and accessible intervention pathways integrated within athletic programs to support both performance and long-term psychological well-being.

Public Health Implications

Situating these findings within established athlete mental health frameworks suggests that prevention efforts should align with identified risk patterns. Routine screening, education for coaches and athletic staff, and access to licensed mental health professionals may be particularly important in sport environments characterized by injury exposure or weight-related performance pressures. At the same time, the protective traits observed in some athlete populations support the integration of mental skills training, including mindfulness and resilience-building practices, into athlete development programs. Framing mental health support as a component of performance optimization may facilitate broader implementation across competitive levels.

Strengths and Limitations

This scoping review provides a structured synthesis of mental health outcomes examined among athletes and non-athletes, with attention to variation across sport types and competitive levels. A key strength is the thematic integration of diverse outcome domains within a unified framework.

Several limitations should be considered. The included studies varied in design, populations, and outcome measures, limiting direct comparability. Many relied on self-report instruments, which may introduce response bias. Demographic diversity was limited, including restricted representation across gender identities, race, ethnicity, and socioeconomic status. As a scoping review, this study did not assess risk of bias or methodological quality, and findings should therefore be interpreted as descriptive rather than conclusive.

In addition, the exclusion or absence of transgender and gender-diverse athletes in the included studies limits the applicability of conclusions to these groups, whose experiences in sport may differ due to distinct social and structural stressors. As a scoping review, this study did not assess risk of bias or study quality, consistent with PRISMA-ScR guidance. Findings should therefore be interpreted as descriptive rather than definitive.

Future research would benefit from longitudinal designs, greater demographic diversity, and standardized outcome measures to clarify how mental health trajectories evolve across athletic careers and competitive transitions.

Conclusion

This scoping review highlights the intricate relationship between competitive athletic participation and mental health outcomes. While engagement in sports fosters resilience through enhanced emotional regulation, social self-efficacy, and mindfulness, elite athletes face unique psychological stressors that can predispose them to mental health risks such as eating disorders, perfectionism, and increased suicide capability.

Findings indicate that different athlete subgroups experience distinct mental health outcomes, with high-impact and aesthetic-sport athletes being particularly vulnerable. Amateur athletic participation appears to provide a buffer against some of these risks, supporting skill development and goal-setting while mitigating body dissatisfaction and performance pressure. The review also underscores the significance of psychological mediators such as mindfulness and self-efficacy in moderating anxiety and perfectionistic tendencies.

From a public health perspective, targeted interventions should be developed to address the mental health needs of competitive athletes, particularly those in high-risk sports. These interventions should focus on injury prevention, body positivity promotion, and mental resilience training to counteract perfectionism and anxiety. Further research is required to explore mental health disparities across diverse athlete populations, including gender-diverse and socioeconomically varied groups, as well as the long-term psychological effects of sports participation beyond competitive years.

Overall, while sports participation offers profound mental health benefits, its impact on elite athletes remains complex, necessitating continued investigation and intervention efforts. Future research should prioritize longitudinal studies to examine the lasting effects of competitive athletics on mental health and identify strategies to foster well-being in sports settings.

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