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REVIEW

Mental health and well-being in youth football players: a systematic review

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Abstract

Background Mental health (MH) and well-being (WB) are increasingly recognized as critical issues in youth sport. This systematic review synthesized evidence on MH and WB outcomes in youth football and identified associated risk and protective factors.

Methods A systematic search was conducted in Web of Science, SPORTDiscus, and Scopus in January 2025, following PRISMA guidelines. Studies were included if they involved YFP aged 12–19, used validated MH or WB measures, and were published in English.

Results Twenty-five studies ($n = 7{,}123$; 15.8% female) met the criteria. Reported prevalence of elevated symptoms was 8–21% for anxiety, 6.5–40% for depression, up to 37% for distress, 17–30% for impaired WB, and 11–17% for disordered eating. Various risk factors (e.g., female gender, older age, perfectionistic concerns, disempowering coaching climates) and protective factors (e.g., empowering climates, transformational leadership, harmonious passion, satisfaction of basic psychological needs) were identified.

Conclusions Symptoms of MH problems are prevalent in youth football, highlighting the need for regular MH screening, coach education, psychological skills training, and multidisciplinary support. More longitudinal and intervention research, particularly involving female players, is needed.

Keywords Soccer · Mental health disorders · Coaching style · Depressive symptoms, stress, young soccer players

For many years, mental health (MH) and well-being (WB) were not widely recognized as relevant concerns in the athlete population, partly due to prevailing cultural expectations within elite sport that athletes are inherently resilient [1]. However, high-profile cases, such as Álvaro Morata publicly addressing his depression and panic attacks in football, have challenged this picture and highlighted the psychological vulnerabilities of athletes. Notably, over the past decade, research on MH in sports has expanded significantly, with a remarkable surge in published work since 2010 [2]. The current review aims to synthesize the recent evidence on the MH and WB situation in youth football.

The World Health Organization (WHO) defines MH as a state of WB enabling individuals to cope with life's stresses, realize their abilities, and contribute to their communities, extending beyond the mere absence of mental disorders [3]. MH conditions include clinically significant disturbances and other states causing distress or impaired functioning. According to Keyes' Complete State Model [4], the continuum of mental disorders and the continuum of subjective well-being describe four different dimensions of mental health. An individual can either flourish (complete mental health), languish (incomplete mental health), struggle

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(incomplete mental illness), or flounder (complete mental illness). Hereby, mental disorders and mental health are both considered to be states rather than stable traits and can move along the spectrum, ranging from the presence and absence of mental disorders and from high to low subjective well-being, respectively. The concept of subjective well-being can be further categorized into emotional, psychological, and social well-being [5, 6].

Within the sport context, several organizations, including the International Olympic Committee (IOC), the European Federation of Sport Psychology (FEPSAC), and the International Society of Sport Psychology (ISSP), emphasize that MH disorders such as depression, anxiety, and eating disorders (ED) are prevalent among elite athletes and often underrecognized due to sport-specific stressors [7–9]. They call for validated assessments, psychologically safe environments, and multidisciplinary support teams to promote mental health literacy (MHL), reduce stigma, and enable early intervention.

Mental health and well-being in youth athletes

Despite the existence of the mentioned guidelines, youth athletes continue experiencing stressors like those of adult athletes. In their scoping review, Gwyther et al. identified depression, anxiety, and disordered eating (DE) as the most common MH issues in elite youth athletes, with higher rates of DE and depression in females and greater substance use in males [10]. Key risk factors included elite athlete status, social pressures, and coach-peer dynamics, while protective factors, such as high self-esteem, autonomy, strong relationships, and greater training experience, supported better MH and WB. Similarly, Xanthopoulos et al. noted that youth athletes face MH concerns comparable to non-athletes but also experience unique stressors like academic-sport balance and injury [11]. They stressed the need for MHL, screening, and tailored services. Walton et al. further emphasized that biopsychosocial developmental changes heighten vulnerability in elite youth athletes, advocating for targeted interventions, supportive environments, and MHL programs for coaches and parents [12].

Mental health and well-being in football

Several studies have investigated MH concerns in football, with most focusing on adult players. Gouttebarge et al. reported high rates of distress (up to 18%), anxiety and depression (up to 43%), and adverse nutrition behaviors (up to 74%) among current and former professionals, linking these symptoms to low social support, recent life events, and career dissatisfaction [13, 14]. Similarly, Sarmento et al. found significant levels of depressive symptoms (up to 39%) and burnout (up to 33%), influenced by factors such as playing position, injuries, conflicts with coaches, perfectionism, and bullying [15]. Expanding on this, Jensen et al. demonstrated that perfectionistic concerns in elite male players were strongly associated with competitive anxiety, social phobia, and depression [16]. Focusing on younger players, Wilkinson highlighted that academy footballers deselected due to injury or performance often face anxiety, depression, and identity loss, emphasizing the lack of support during career transitions [17]. In addition, Andrade et al. found that the COVID-19 pandemic exacerbated MH issues in elite footballers, with increased anxiety, depression, and reduced WB [18].

Aim of this review: mental health and well-being in youth football

Despite the existence of several reviews on MH and WB in football players, these reviews focus on adult athletes, specific disorders (i.e., depression, burnout), an event (i.e., after career termination), or the pandemic. However, there is a lack of reviews on youth football players (YFP). Therefore, this systematic review aimed to identify the MH and WB situation in YFP by answering the following research questions:

What are the reported prevalences of symptoms of mental health problems and levels of well-being among youth football players?
Which risk factors are associated with poorer mental health and well-being?
Which protective factors are associated with better mental health and well-being?

Specifically, we aimed to include studies within the past ten years, following the suggestion by Gouttebarge et al. [13] on the need to increase awareness in professional football about common mental disorders, and to implement a longitudinal design to acquire an insight into the causal relationship between symptoms related to common mental disorders and risk factors. Moreover, this time frame allows us to synthesize evidence from both before and after the COVID-19 pandemic.

Methods

This systematic review followed the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) [19].

Search strategy

The systematic search was conducted on Web of Science, EBSCOhost (SPORTDiscus), and Scopus in January 2025. The search combined three main blocks of terms, including 1) age-related terms (e.g., *youth OR adolescen*,),* 2) football-related terms *(e.g., soccer OR football)* and 3) mental health or well-being terms *(e.g., mental health OR depression OR anxiety OR disorder OR symptom OR stress OR well-being)*. For more detailed information on the search strategy for each database, see Appendix A. The search term was defined based on an initial scoping search and oriented on existing reviews on the topic.

Eligibility criteria

Studies were assessed for eligibility by two reviewers (GP, CS) based on PICOS criteria that refer to participant, intervention, comparator, outcome, and study design (PICOS; see Table 1) [20]. Further inclusion criteria were articles published within the last ten years (2015 to 2025); published in peer-reviewed journals; and in English. Furthermore, exclusion criteria were reviews or meta-analyses, American Football or Australian Rules Football, and case studies. Sleep as an outcome was excluded post hoc as it can be a symptom of MH problems (e.g., depression) but not a comprehensive measure for this concept [21]. However, articles on sleep were screened in more depth so as not to miss potentially relevant outcomes. When there was a conflict between the two reviewers, a third reviewer decided (MB).

Data extraction

After data collection, the data were implemented in EndNote, and duplicates were identified via automatic tools through EndNote and removed by one reviewer. Corresponding authors were contacted via email to provide missing information. The data were organized into tables by the first author using Microsoft Excel (Version 16), which included details on participant characteristics, outcome measures, study design, and key findings.

Data charting and synthesis

Information on participants and study design was summarized narratively. Key findings, including prevalence of elevated symptoms above specific screening cut-offs, if applicable, and risk and protective factors, were extracted, and synthesized narratively.

Risk of bias

To assess the potential risk of bias, the methodological quality of the included studies was evaluated using the Mixed Methods Appraisal Tool (MMAT) [22]. The first and the third author performed an independent appraisal process, applying the relevant MMAT checklist for quantitative non-randomized or quantitative descriptive design. All studies were first assessed with the screening questions, followed by the specific questions depending on the study design. Notably, no studies were excluded based on their methodological quality. Any rating discrepancies were discussed and resolved collectively by the author team.

Results

The search revealed 1.244 records with duplicates removed, of which 25 studies were eligible for inclusion in the review (Fig. 1). References marked with an asterisk (*) in the reference list indicate included studies. Table 2 provides an overview of the study characteristics, including participants, study design, and outcomes. Two studies comprised the same sample investigating relationships to different outcomes [23, 24]. Therefore, both studies were included. However, the participants were not counted twice. The corresponding author of one study was contacted to provide further information on the participants, which the author directly clarified [25].

Table 1 PICOS Criteria

Criteria	Description
Participants	Youth football players aged 12–19 years old, amateur to professional level, female and male players
Intervention	No intervention or exposure required
Comparison	No comparison required
Outcome	Validated measures of mental health, symptoms of mental health problems (e.g., depressive symptoms, depression, anxiety disorder, eating disorder, disordered eating), well-being, stress
Study design	Cross-sectional, longitudinal, cohort studies

Validated measures are instruments with documented reliability and validity

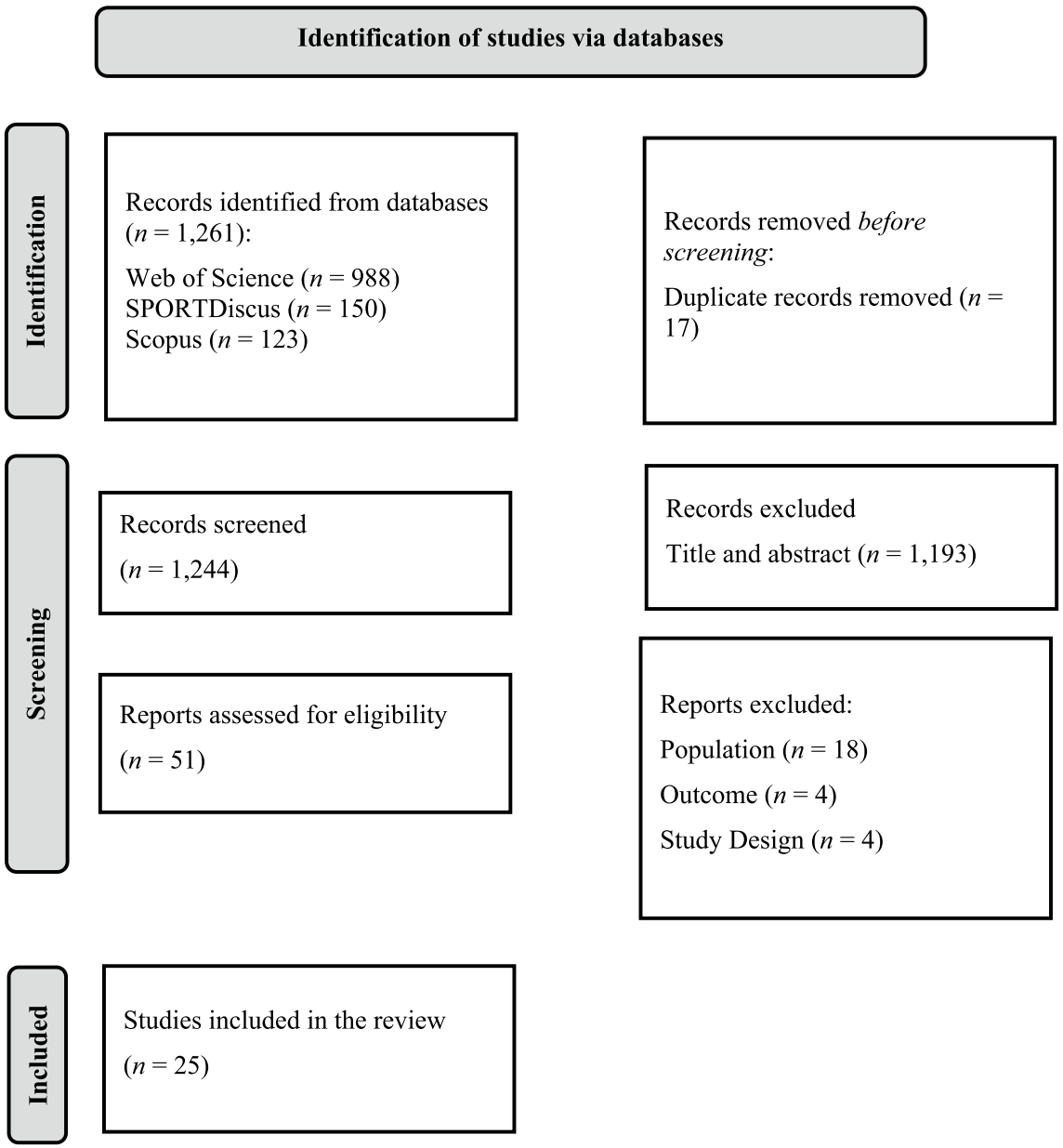

Fig. 1 Flow Diagram according to PRISMA 2020 Guidelines

Participants

Our review included 7.123 participants, of whom 15.8% were female, aged 12 to 19. The included studies were published between 2015 and 2024 from twelve countries (i.e., Spain, Germany, Denmark, Sweden, Austria, Switzerland, UK, Cyprus, Turkey, USA, Brazil, and Tunisia). Seventeen studies employed a male-only sample, while two had a female-only sample, and the remaining included both males and females. The competition levels of YFP included in the review ranged from regional to national to international competitions, including regional clubs, national teams, and youth academies. The player's status ranged from amateur to professional (non-elite to sub-elite to elite).

Study design

Five studies employed longitudinal or experimental designs, including prospective cohort, pilot longitudinal, and intervention studies, to examine psychological, physical, and performance-related outcomes in YFP across training camps, competitive matches, and talent development stages [26–30]. The remaining 19 studies employed a cross-sectional design to scrutinize findings about the prevalence of

Table 2 Study Characteristics

Study	*N*	Population	Age *M*(*SD*)	Female *n*(%)	Procedure/ Study Design	Outcomes
Amar et al. [26]	35	Highly trained YFP licensed from regional clubs, Tunisia	15.8 (0.4)	Not indicated	Cross-sectional study	Anxiety, Locus of Control
Andersen et al. [41]	39	YFP of the national team, Denmark	F: 17.9 (0.6) M: 18.3 (0.4)	19 (48.7%)	Longitudinal study: monitoring during national (NT) vs. international training camp (IT) à 8 days	WB, Perceived Stress, Resilience, Recovery, Perceived exertion, Training Load
Castro-Sánchez et al. [36]	282	Low-tier male footballer, Spain	16.9 (0.8)	0 (0%)	Cross-sectional study	Anxiety, Emotional intelligence (EI), Motivational climate
Chamorro et al. [39]	487	Elite U18 male players, Spain	17.4 (0.7)	0 (0%)	Cross-sectional study	Concentration disruption, BPN, Passion, Reflective learning
da Silva et al. [43]	228	Male professional and amateur U20 players, Brazil	18.1 (1.2)	0 (0%)	Cross-sectional study	Burnout, Coping strategies
de França et al. [27]	9	Male U17 players competing at national and international level, Brazil	16.4 (0.6)	0 (0%)	Pilot Study, longitudinal design: analysis of two matches (home vs. away)	Mood, Anxiety, Cognition, Performance
Devey et al. [40]	242	youth club-level players, USA, UK	15.2 (1.1)	99 (40.9%)	Cross-sectional study	MH, Irrational beliefs, EI
Domínguez-González et al. [24]	328	Male YFP competing at regional and national level, Spain	15.9 (1.4)	0 (0%)	Cross-sectional study	Anxiety, Psychological skills, Flow
Domínguez-González et al. [23]	328	Male YFP competing at regional and national level, Spain	15.9 (1.4)	0 (0%)	Cross-sectional study	Anxiety, Motivational climate, Psychological skills
Fältström et al. [28]	419	Female YFP, Sweden	14 (1)	419 (100%)	Prospective cohort design of one year	MH, WB, Habits
Frytz et al. [42]	53	Male elite football player U15, U16, Austria	14.4 (0.6)	0 (0%)	Cross-sectional study	Anxiety, Recovery-stress, Sleep,
Hauw et al. [38]	70	Male high-level YFP, Switzerland	16.8 (2.4)	0 (0%)	Cross-sectional study using McAdams multilevel model of personality	Anxiety, Personality (emotional stability, extraversion, openness, agreeableness, conscientiousness)
Ivarsson et al. [45]	195	Male elite YFP, Sweden	14.2 (1)	0 (0%)	Longitudinal field-based design	MH, recovery-stress, Talent development environment
Jordana et al. [32]	515	Male professional YFP, Spain	16.7 (1.6)	0 (0%)	Cross-sectional study	MH, Irrational beliefs, Perfectionism
Knöbel et al. [47]	197	Male YFP from the youth academy, Germany	Study 1: 14.9 (1.8) Study 2: 15.2 (1.4)	0 (0%)	Cross-sectional studies Study 1: use of computerized cognitive task Study 2: use of adapted and validated football-specific cognitive task	Emotions, Cognition
Koudellis et al. [31]	243	Male YFP (non-elite, sub-elite, and elite), Cyprus	16.2 (0.5)	0 (0%)	Cross-sectional study	Mood, Physical fitness, Coping, Performance
Kuettel et al. [33]	239	Elite YFP, Denmark	16.9 (1.1)	57 (23.8%)	Cross-sectional study	Depression, Anxiety, WB
Montull et al. [46]	217	U16 and U18 YFP from professional clubs, Spain	15.1 (2.1)	0 (0%)	Cross-sectional study	Psychosomatic intelligence, Injuries, Mind–body practices

Table 2 (continued)

Study	*N*	Population	Age *M*(*SD*)	Female *n*(%)	Procedure/ Study Design	Outcomes
Morales-Sánchez et al. [32]	113	YFP competing regionally, Spain	16.1 (1.2)	50 (44.3%)	Cross-sectional study	Anxiety, Motivational climate, Self-confidence
Pacewicz et al. [44]	276	Female YFP competing regionally and nationally, USA	14.9 (1.3)	276 (100%)	Cross-sectional study	Burnout, Relatedness
Rodrigues et al. [35]	62	Male U20 players of the first three Brazilian football divisions, Brazil	18.8 (0.8)	0 (0%)	Cross-sectional study	Anxiety, Depression
Selmi et al. [25]	15	YFP competing nationally, Tunisia	14.8 (0.4)	0 (0%)	Experimental study comparing moderate (MT) to intense training camp (IT)	Mood, Recovery, Performance, Hematological markers
Vásquez-Díaz et al. [34]	536	Elite YFP, Spain	16.5 (1.2)	205 (38.2%)	Cross-sectional, prevalence study	Eating Disorder
Wachsmuth et al. [30]	369	YFP U12 and U17, Germany	U17: 16 (0.4) U12: 11.4 (0.3)	Not indicated	Prospective cohort design to evaluate predictive validity of psychological characteristics for future success	Anxiety, Motivation, Volition, Self-efficacy, Performance
Yildirim et al. [29]	252	Male YFP of professional clubs, Turkey	14.5 (0.7)	0 (0%)	Cross-sectional study	Burnout, BPN satisfaction, Life satisfaction, Affect, Leadership. Group environment

N number of participants; *M* mean; *SD* standard deviation; F females; M males; BPN basic psychological needs; BMI body mass index; ED eating disorder; EI emotional intelligence; EF executive functions; MH mental health; WB well-being; YFP youth football players

elevated symptoms of MH problems [e.g., 31] or to explore relationships among different outcomes with MH [e.g., 32].

Key findings

Key findings are presented based on the research questions.

Prevalence

Across mental health outcomes, a substantial proportion of youth football players (YFP) experienced elevated symptoms of anxiety, depression, disordered eating, distress, and reduced well-being, which are presented in Table 3. The reported prevalence rates refer to above-cut-off scores from screening-based estimates of elevated symptoms of MH problems and WB measures rather than clinical diagnoses.

Risk factors

Age has been a repeatedly reported risk factor for some outcomes of MH and WB in YFP. Specifically, MH problems tended to increase with age, particularly during the critical junior-to-senior career transition [33]. Similarly, U17 players exhibited higher anxiety and ego-orientation than U12 players [30]. On the contrary, female players showed decreased scores of disordered eating with increasing age. However, this effect was minimal, and other factors likely play a more essential role [34].

In line with the above-mentioned prevalence rates of elevated symptoms and impaired well-being (for an overview, see Table 2), gender can be identified as a risk factor for MH and WB outcomes, with female players being more affected than male players [e.g., 33; 35]. Furthermore, ego-oriented and disempowering climates were associated with higher anxiety and insecurity, with females particularly vulnerable to these effects [23, 36, 37].

Other risk factors on an individual level, such as irrational performance beliefs, especially depreciation, as well as perfectionistic concerns, were tied to greater anxiety and depressive symptoms, particularly among athletes with low career prioritization [32]. Similarly, irrational beliefs about basic psychological needs (BPN) were related to lower emotional intelligence and poorer MH [38]. Interestingly, the satisfaction of competence, one of the BPN, negatively impacted emotional and cognitive functioning through the mediation of obsessive passion [39]. Additional findings highlighted psychological vulnerabilities in players, including low emotional stability, inadequate coping, and moderate anxiety, as well as risks for substance use and doping. These were linked to four key psychological needs: emotional regulation, conscientiousness, prevention of maladaptive behaviors, and engagement in meaningful activities [40].

Table 3 Prevalence of Mental Health and Well-Being Outcomes

Study	Population	Outcome and measurement	Prevalence
Fältström et al. [28]	Female YFP, Sweden	Psychological distress (GHQ-12)	From 27 to 37% after one year
Kuettel et al. [33]	Elite YFP, Denmark	Anxiety (GAD-7) Depression (CES-D) Well-being (below average scores; Short Warwick–Edinburg Mental Well-Being Scale)	Females: 21.1% Males: 7.6% Females: 40.3% Males: 13–7% Females: 29.8% Males: 16.5%
Rodrigues et al. [35]	Male U20 players of the first three Brazilian divisions	Anxiety (HADS-A) Depression (HADS-D)	14.5% 6.5%
Vásquez-Díaz et al. [34]	Elite YFP, Spain	Eating disorder (EAT)	All: 13.4% Females: 16.5% Males: 11.4%

The reported prevalence rates refer to above-cut-off scores from screening-based estimates of elevated symptoms of MH problems and WB measures rather than clinical diagnoses. *CES-D* Center for Epistemological Study Depression Scale, *EAT* Eating Attitudes Test, *GAD-7* Generalized Anxiety Disorder questionnaire, *GHQ-12* General Health Questionnaire, *HADS* Hospital Anxiety and Depression Scale

Lastly, certain training or competition modalities influenced MH and WB outcomes. Pre-match anxiety, performance reduction, and increased psychological strain were more pronounced during away games [27]. Stress levels further spiked during international competitions, particularly among male players [41], and intensified training camps led to increased physiological stress, reduced mood, and weakened immune responses compared to the moderate-intensity camps [25]. Similarly, higher subjective training intensity was linked to poorer sleep quality and greater somatic anxiety, while later training times increased total sleep duration, likely reflecting greater recovery needs [42].

Protective factors

Multiple protective factors were associated with improved MH and WB outcomes in YFP. On an individual level, task-oriented and empowering motivational climates promoted higher emotional intelligence, better coping and attentional control, and greater self-confidence [23, 36, 37]. Moreover, an internal locus of control, believing outcomes result from personal effort, was linked to greater self-confidence and reduced pre-competitive anxiety [26]. Similarly, strong psychological profiles featuring good coping and attentional control were positively associated with confidence and flow states, and negatively with anxiety [24]. Satisfaction of basic psychological needs (BPN) was associated with improved cognitive and emotional functioning, with harmonious passion enhancing these effects [39].

Protective factors were also evident in relation to performance level and career progression, with higher-level players exhibiting better MH and WB outcomes. Specifically, elite players outperformed sub-elite and non-elite peers in coachability, adversity coping, and reduced fatigue and anxiety, all linked to better performance [31]. Similarly, higher-level and older players demonstrated better psychological profiles, with stronger skills, less anxiety, and more flow states [24]. Players who successfully transitioned to professional football employed more effective coping strategies and reported lower burnout levels than non-professionals, with higher confidence and goal-setting abilities linked to professionalization [43].

At the interpersonal level, team cohesion positively predicted relatedness, which in turn was associated with greater self-determined motivation and reduced burnout. Notably, social cohesion had a stronger impact than task cohesion, which also exerted both direct and indirect negative effects on burnout through relatedness and motivation [44]. Moreover, players in supportive development environments, characterized by clear goals, coach support, and strong social networks, reported greater WB and lower stress [45]. Similarly, transformational leadership of coaches reduced burnout and enhanced psychological health, including life satisfaction and positive affect, by supporting BPN satisfaction, with team cohesion playing an important mediating role [29].

Moreover, prior injuries were linked to increased interoceptive awareness, suggesting a protective role through enhanced body perception [46]. Likewise, another study found that recent minor injuries did not significantly impact burnout or coping, suggesting that minor injuries may not exacerbate psychological stress [43]. Finally, emotional states had context-specific effects on executive function: elevated tension improved cognitive flexibility in computerized tasks but impaired football-specific performance [47].

Risk of bias

As described, we used the MMAT tool to assess the risk of bias of the 25 studies included. Three longitudinal studies compared the outcomes between different exposures (e.g., high-intensity vs. moderate-intensity training camp; away vs. home match) and were therefore assessed with the item for quantitative non-randomized designs. The remaining studies followed a cross-sectional design or longitudinal design (without different exposures or interventions) and were consequently assessed with the item for quantitative descriptive studies. Results are displayed in Table 3. Overall, five studies fulfilled 100% of the criteria, 13 studies 80%, and seven studies 60%. Therefore, all studies demonstrated satisfactory to good quality. Furthermore, the two assessors demonstrated an agreement rate of approximately 91%.

Discussion

This review synthesized the current situation of mental health (MH) and well-being (WB) in youth football players (YFP). In line with the Model of Mental Health by Keyes [4], our findings indicate that YFP do not fit neatly into the categories "healthy" (i.e., complete mental health or flourishing) or "ill" (i.e., complete mental illness or floundering). Instead, they presented impaired subjective WB (i.e., incomplete MH or languishing) and showed symptoms of mental illnesses (i.e., incomplete mental illness or struggling), such as anxiety or depression, calling for the need for MH promotion and intervention strategies (Table 4).

Across studies, YFP showed elevated symptoms of anxiety (8–21%), depression (6.5–40%), impaired WB (17–30%), distress (37%), and DE (11.4–17%). These prevalence figures were extracted directly from primary studies. As few studies reported prevalence, no pooled estimates were computed. They should therefore be interpreted as a descriptive overview rather than primary outcomes of this review. Overall, these rates are comparable with those of the broader

Table 4 Study quality appraisal

Rating study	Screening questions	Quantitative (non-randomized)	Quantitative (descriptive)	Quality score
Amar et al. [26]	1 1		1 0 1 1 1	80%
Andersen et al. [41]	1 1	1 1 1 0 1		80%
Castro-Sánchez et al. [36]	1 1		1 0 1 1 1	80%
Chamorro et al. [32]	1 1		1 1 1 1 1	100%
da Silva et al. [43]	1 1		1 0 1 1 1	80%
de França et al. [27]	1 1	1 0 1 0 1		60%
Devey et al. [40]	1 1		1 0 1 1 1	80%
Domínguez-González et al. [24]	1 1		1 1 0 1 1	80%
Domínguez-González et al. [23]	1 1		1 0 1 1 1	80%
Fältström et al. [28]	1 1		1 1 1 1 1	100%
Frytz et al. [42]	1 1		1 0 1 0 1	60%
Hauw et al. [38]	1 1		1 1 1 0 1	80%
Ivarsson et al. [45]	1 1		1 1 1 1 1	100%
Jordana et al. [32]	1 1		1 0 1 1 1	80%
Knöbel et al. [47]	1 1		1 0 1 1 1	80%
Koudellis et al. [31]	1 1		1 0 1 1 1	80%
Kuettel et al. [33]	1 1		1 0 1 1 1	80%
Montull et al. [46]	1 1		1 0 1 0 1	60%
Morales-Sánchez et al. [32]	1 1		1 0 1 0 1	60%
Pacewicz et al. [44]	1 1		1 0 1 0 1	60%
Rodrigues et al. [35]	1 1		1 1 1 1 1	100%
Selmi et al. [25]	1 1	0 1 1 1 1		80%
Vásquez-Díaz et al. [34]	1 1		1 1 1 1 1	100%
Wachsmuth et al. [30]	1 1		1 0 1 0 1	60%
Yildirim et al. [29]	1 1		1 0 1 0 1	60%

1 = criteria met, 0 = criteria not met, shaded, not applicable criteria

youth athlete population [e.g., 48]. Gwyther et al. reported higher prevalence rates in DE than observed in YFP [10], which may reflect that football is, per se, not classified as a high-risk sport for DE, like weight-sensitive or aesthetic sports (e.g., gymnastics) [49]. Across the included studies females experienced higher rates of elevated symptoms when both genders were assessed. These findings are similar to the broader athlete population, where these symptoms are also more frequent in females than in males e.g., [49]. However, some studies highlighted the systematic underestimation of MH issues in males, such as ED, as frameworks and diagnostics are more female-oriented e.g., [50]. Still, reviews also showed that males reported higher rates of substance use compared to females [10], while some sports seem to be more prone to alcohol use than others, including football [11]. In this review, only one study with a male-only sample investigated the attitudes towards substance use, revealing a moderate vulnerability among players and calling for targeted strategies to prevent substance use and doping.

Our review identified multiple risk and protective factors on an individual level. Age can be identified as a risk factor, with older athletes showing increased MH symptoms [e.g., 33]. This has also been shown in the broader youth athlete population, where older age was associated with worsened outcomes in DE, substance use, burnout, and well-being [10].

Moreover, burnout symptoms appeared more frequently in athletes with an external locus of control, meaning that they attribute their success or achievement to external factors [26], which has been found to negatively impact DE in athletes [51]. On the other hand, if players have an internal locus of control, this can have positive influences on MH.

Additionally, anxiety was associated with worsened sleep quality and increased frequency of sleep disturbances [42], which is known to affect WB in athletes and, when untreated, can cause clinical disorders e.g., [52].

Moreover, we identified that perfectionistic concerns were linked to increased anxiety and depression [32]. This is in line with Daley & Reardon, who synthesized findings of associations between perfectionism and depression, anxiety, burnout, and ED [48]. It should be noted that perfectionism per se is not always negative and is common in athletes. Perfectionism can be a strength if athletes show perfectionistic strivings (e.g., having high personal standards) compared to vulnerabilities when perfectionistic concerns are observed, such as fear of failure [53].

Furthermore, irrational beliefs about self-determination and performance were shown to impact MH outcomes negatively, which is linked to anxiety, distress, and lower WB, and intertwined with perfectionism [54]. On the other hand, in our review, BPN have been consistently reported to have either a direct or indirect positive influence on outcomes such as cognitive processes, burnout, and life satisfaction. The satisfaction of BPN has been shown to positively impact MH outcomes, such as depression, life satisfaction, anxiety, and substance use in different settings e.g., healthcare; sports: [55, 56].

Another risk factor on an individual level is obsessive passion, which is characterized by an uncontrollable urge to engage in an activity, driven by internal and external pressures such as the need for social acceptance [57]. We found that higher competence satisfaction in players can increase concentration disruption via the development of obsessive passion, suggesting that even though feeling competent is usually positive, this can shift in competitive contexts and contribute to maladaptive cognitive outcomes, like difficulties focusing. On the other hand, the authors found that harmonious passion, which refers to athletes who engage in their sports for an intrinsic enjoyment and personal growth, served as a protective factor by positively mediating the effects of BPN satisfaction on cognitive processes. Similar mechanisms of harmonious vs. obsessive passion on MH and WB outcomes in athletes have been shown before e.g., [58].

Furthermore, the environmental climate (i.e., interindividual level), which is primarily shaped by coaches, seems to play an important role and can be identified as both risk and protective factors. Ego-oriented climates, particularly for female athletes, were associated with negative psychological outcomes, highlighting the importance of gender-sensitive coaching approaches. Additionally, disempowering climates were associated with increased anxiety and decreased psychological skills, such as coping. On the other hand, empowering and task-oriented climates, as well as transformational leadership of coaches and constructive communication, enhance self-confidence, emotional intelligence, and reduce burnout risks. These results are consistent with prior research supporting strong task and motivational climates and transformational leadership styles, which are associated with reduced burnout risk and supported athletes' BPN and WB e.g., [59].

Additionally, training and competition modalities as well as athletes' status (e.g., elite vs. non-elite) influenced MH and WB outcomes. Intensive training periods, such as training camps, especially international and away matches, showed negative impacts not only on physical but also psychological parameters and should be considered as risk factors for MH and WB outcomes [e.g., 41]. Research across multiple sports indicated that intensive training without adequate recovery and frequent travel can disrupt athletes' recovery and mood, manifesting as increased fatigue, mood disturbances, and anxiety [e.g., 60]. Moreover, YFP of higher competition levels showed better psychological profiles and MH outcomes compared to players of lower levels, which is associated with higher self-efficacy, emotional intelligence, and openness [61]. However, another study

could not find significant differences between elite athletes and their non-elite peers in depression, burnout, and insomnia [62]. Notably, a review highlighted that the transition from sub-elite to elite often involves increased performance expectations, greater public scrutiny, and intensified training demands, which can contribute to MH issues, particularly if athletes lack adequate coping strategies and support systems [63].

Practical implications

The findings of the studies revealed several recommendations on how to improve MH and WB in football.

Firstly, framed within Keyes' complete state model of mental health [4], the present findings indicate that interventions in youth football should aim not only to reduce symptoms of MH problems, but also to actively promote subjective WB and flourishing (i.e., complete mental health), by fostering the identified protective factors of MH and WB, such as fostering motivational climates, supporting BPN satisfaction, and encouraging harmonious passion.

Secondly, implementing routine MH screening in youth football clubs is essential for the early identification of impaired WB, overtraining, or emerging MH symptoms. In youth populations, however, screening procedures must be age-appropriate and developmentally sensitive. This includes careful consideration of confidentiality, informed consent, and transparent communication with athletes and caregivers regarding the purpose and use of screening data. Such proactive measures enable timely interventions, potentially preventing the escalation of issues and promoting overall WB. The International Olympic Committee (IOC) underscored the importance of early detection through standardized tools like the Sport Mental Health Assessment Tool 1 (SMHAT-1), designed to be used by medical staff and licensed health professionals to identify athletes at risk and facilitate prompt referral to appropriate support services [64]. On the other hand, the Sport Mental Health Recognition Tool 1 (SMHRT-1) was designed to be used by coaches, parents, friends, or fellow athletes [60].

Thirdly, coaches should be equipped and supported through education and ongoing training to create supportive and empowering environments that prioritize athletes' development and WB. Coach education programs that focus on fostering a task-oriented motivational climate typically train coaches to emphasize personal improvement, effort, and learning rather than competition and comparison. Such programs often include workshops on providing autonomy-supportive feedback, encouraging team cohesion, and developing athletes' intrinsic motivation e.g., [65]. Moreover, transformational leadership training for coaches targets behaviors like individualized support, role modeling, and inspirational communication, aiming to create environments that support athletes' psychological needs and overall WB e.g., [66].

Moreover, integrating structured psychological skills training into athletes' routines is recommended for enhancing MH (i.e., flourishing) and performance. Techniques can include relaxation, goal setting, imagery, and self-talk, which have been shown to mitigate anxiety, improve self-confidence, and emotional regulation in athletes e.g., [67]. These skills can be learned but should be practiced over time and integrated into athletes' daily lives.

Furthermore, MH promotion should be included in football clubs with prevention workshops (e.g., burnout) and educational programs (e.g., nutrition) that enhance mental health literacy (MHL) among athletes, coaches, parents, and staff. By increasing understanding and knowledge of MH issues, these programs enable athletes to recognize early signs of distress and seek appropriate support. Purcell et al. emphasized that improved MHL is linked to greater self-awareness and more frequent help-seeking behaviors [68].

Lastly, a multidisciplinary approach when tackling MH should be implemented, particularly in youth settings where coordination between sporting, educational, healthcare, and family systems is critical for continuity of care and safeguarding. This implies that coaches, staff, stakeholders, parents, and the athlete's school are integrated to promote a holistic support system. For example, in their best practice report for treatment approaches for athletes with ED, Conviser et al. developed the Multidisciplinary Treatment Team Model, which encompasses professionals experienced in working with athletes and who have specialized training in ED, to provide the best possible care. The team should consist of athletic personnel, such as a coach, athletic trainer, medical director, physician, psychotherapist, dietician, psychiatrist, and professionals with other specialties [69].

By implementing these evidence-based strategies, football clubs can create an environment that prioritizes the MH and WB of their athletes, ultimately enhancing both personal development and athletic performance.

Strengths and limitations

The present systematic review aimed to address the situation of MH and WB in YFP, bridging a gap in the current literature. We synthesized a broad, integrative perspective on different aspects of MH and WB in youth football. Moreover, the risk of bias assessment revealed moderate to good methodological quality of included studies, ensuring the relevance of our findings. Moreover, our review identified key psychological risk and protective factors, offering a strong foundation for future longitudinal research.

However, the results of our review also present limitations in terms of generalizability and interpretation. Indeed, the included studies were methodologically heterogeneous,

using varied designs, measurement tools, and outcome variables, which limits the comparability and synthesis of results. Moreover, many studies included used cross-sectional designs, restricting causal relationships and limiting insights into developments over time. Furthermore, female athletes were underrepresented in the available literature, which constrains the applicability of findings to this group. Additionally, the samples in the included studies were from various geographical locations (e.g., South America, North Africa), while most studies were performed in European countries. The latter and the gender imbalance should be considered, as the findings may not be generalizable or transferable to different contexts. Finally, only self-report measures were used for psychological outcomes, which may be subject to social desirability and response bias. Still, our review drew on validated instruments, which strengthens the interpretability of the findings.

Future research

Considering our findings, future research is needed to provide deeper insights into the mechanisms underpinning MH and WB among YFP. This is particularly urgent for female athletes, as the current evidence base remains limited. Future studies should focus on high-stress periods, such as transitional phases, competitive pressures, and injury recovery, where athletes are particularly vulnerable e.g., [33].

Furthermore, future studies should focus on assessing prevalence rates of elevated symptoms of MH problems (e.g., depression, anxiety) with validated screening tools as our review only identified a few studies reporting those rates. Indeed, Gouttebarge et al. performed such a study a decade ago across five European countries providing insights into international estimates of prevalence of different MH and WB outcomes. However, this sample focused on male adult professional football players, thus limiting the transferability to the youth context and to female players [13].

Moreover, longitudinal research is needed to track MH trajectories over time, identifying both risk accumulation and protective dynamics, as only three of the included studies employed a longitudinal design e.g., [30].

Finally, research should also evaluate the effectiveness, sustainability, and implementation barriers of support structures, such as multidisciplinary care models, MHL programs, and stigma-reduction interventions tailored for youth athletes using high-quality study designs with a theoretical foundation to produce robust findings e.g., [68].

Conclusions

Our review showed that YFP experience symptoms of MH problems, such as anxiety, depression, burnout, and disordered eating, comparable to other youth athletes [10]. These symptoms are more common among females and older players, particularly during transitional phases. Key risk factors include irrational beliefs, exposure to disempowering climates, sleep disturbances, perfectionistic concerns, obsessive passion, increased training load, away matches, and an external locus of control. Conversely, protective factors include the satisfaction of BPN, exposure to empowering climates, transformational leadership of coaches, harmonious passion, and an internal locus of control. Recommended strategies for clubs involve regular monitoring of both physical and psychological states, coach education, psychological skills training, and comprehensive MH promotion. This should involve both preventative and treatment-oriented approaches. Crucially, a multidisciplinary support system is essential to enable early detection and effective management of MH concerns.

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Data availability The data that support the findings of this study are available from the corresponding author (GP) upon request.

Declarations

Conflict of interest The authors declare they have no known conflict of interest.

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