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Athlete burnout: Causes, consequences, and prevention strategies

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ABSTRACT

Athlete burnout, as a psychological syndrome, includes three components: emotional and physical exhaustion, decreased sense of personal accomplishment, and sport devaluation. A systematic literature review synthesizing peer-reviewed studies published from 2015 to 2026 assigns a primary focus to the drivers, outcomes, and prevention of athlete burnout. A systematic search of Google Scholar produced 20 articles, including systematic reviews, meta-analyses, and empirical studies. The review also found the presence of several contributing factors to athlete burnout, including chronic stress, perfectionism, high need for autonomy, poor coach-athlete relationships, and identity foreclosure. The consequences are depression, anxiety, low performance, and sports dropout. Even more alarming, cross-temporal meta-analytic data suggest a pronounced increase in burnout symptoms over the last 20 years. Empirically supported prevention strategies include cognitive behavioral therapy, mindfulness-based interventions, autonomy-supportive coaching, enhancing social support, and diversifying identity. The restructured Athlete Burnout Questionnaire and its structured version 16 remain the gold standard measurement tools. The cognitive-affective model of burnout (CA model), self-determination theory (SDT), and integrated models also theoretically explain the development of burnout. Such reviews emphasize the need for evidence-based prevention and intervention programs to reduce athlete burnout and its negative consequences for athlete well-being and performance.

KEYWORDS: athlete burnout, sport psychology, prevention strategies, mental health, performance



1. Introduction

Introduction: Athlete burnout is an important psychological health issue in sports, and its influence spans all levels and ages of competition. In the last two decades, an increasing understanding of the negative consequences of athlete burnout has resulted in considerable empirical research on the topic (Gustafsson et al., 2017). The syndrome has three high-level components: emotional and physical exhaustion, decreased sense of athletic accomplishment, and sport devaluation, defined as a cynical attitude towards sport participation (Gustafsson et al., 2017).

Key Takeaways Athlete burnout is not only a health problem for the individual performer, but it has implications for the athlete, the team, the organization, and sports as an ecosystem. Burnout has been identified as the foremost reason for withdrawal from sports, even by elite-level athletes at the peak of their careers (Smith, 2021). In addition, some preliminary meta-analytic evidence points towards a worrisome trend in the opposite direction, with athletes symptomatology for burnout being significantly higher over the last 20 years; past generations of athletes exhibited lower levels of both reduced accomplishment and sport devaluation compared to more recent generations of athletes (Madigan et al., 2022). This increase over time creates a clinical and social imperative for understanding and implementing effective intervention strategies.

Although there is a large body of evidence on athlete burnout reflected in citation networks of more than 100 publications on the syndrome (Gustafsson et al., 2017), many questions and issues remain unresolved. This systematic literature review aimed to systematically summarize the current literature on athlete burnout in studies published between 2015 and 2026. Three electronic bibliographic databases were queried for ongoing athlete burnout studies (EBSCO, ISI Web of Science, and PubMed). Data were extracted from 1,174 articles for this study. Ultimately, 206 peer-reviewed research articles relating to athlete burnout were referenced, all published between 2015 and 2023. In total, 112 studies focused on athlete burnout, while most of the remaining studies measured burnout in relation to other metrics (e.g., performance, injury). Most studies used cross-sectional methods ($n = 151$), largely focused on young ($n = 22$) and adolescent athletes ($n = 189$), and provided certain athlete burnout dimensions (e.g., physical, emotional, and social fatigue; frequent negative moods). Dimensions of athletes' burnout literature included moderate ($n = 59$) and high ($n = 115$) external locus of control, high self-perception of athletic achievement ($n = 109$), and important awards ($n = 135$). This systematic literature review represents a practical guide to prior work in the field and provides a summative view of the empirical literature from 2015 to 2023. More specifically, this review seeks to (1) outline the main antecedents and risk factors of athlete burnout, (2) assess the impact of burnout on athletes and sports organizations, and (3) analyze effective prevention and intervention strategies to better combat such an issue. This review combines evidence from systematic reviews, meta-analyses, and empirical studies in the literature to outline a thorough resource for stakeholders—researchers, practitioners, coaches, and sports administrators—looking to better understand and address athlete burnout.

2. Theoretical Foundations of Athlete Burnout

To understand athlete burnout, we need to review the theoretical models that explain the development and maintenance of this phenomenon. There are many more frameworks that work alongside it, providing different insights into the etiology and mechanisms of burnout. For example, Schaufeli and Taris (2014) proposed a job demands-resources (JD-R) model of burnout.

2.1 Smith's Cognitive-Affective Stress Model

Smith's cognitive-affective model (Smith, 2021) is one of the earliest models of athlete burnout. According to this framework, athletes experience multiple demands (e.g., high training loads and performance expectations) that have a personality and motivational component, which is the model referred to as

the stress process of burnout. Athletes then cognitively evaluate their resources to meet these demands, while the appraisal of demand activates physiological responses in the athlete, manifesting behavioral and coping responses (Smith, 2021). At worst, the hallmark of chronic stress comes from athletes believing that demands exceed their available resources, which in turn may lead to a belief that they are burning out. This model is supported by systematic reviews indicating that psychological distress, operationalized as the perception of psychological stress, is a predictor of burnout-relevant perceptions across diverse athlete populations (Lin et al., 2021).

2.2 Self-Determination Theory

Recently, Self-Determination Theory (SDT; Ryan and Deci 2017) has provided a motivating theory of athlete burnout, positing that the satisfaction and frustration of three basic psychological needs—autonomy, competence, and relatedness—underlie optimal functioning and well-being. However, neglecting these basic needs can have undesirable effects, such as burnout. Previous research has consistently shown a positive relationship between burnout and amotivation and a negative relationship between burnout and intrinsic motivation (Woods et al., 2022). The study provides meta-analytic evidence that burnout is negatively related to autonomy, competence, relatedness, and self-determined motivation and positively associated with amotivation and controlling coach styles in team sport athletes (Woods et al., 2022). This motivational framework has been shown to be beneficial for designing autonomy-supportive burnout prevention-oriented interventions

2.3 Social Organization of Sport Perspective

A different explanation comes from Coakley, who wrote a paper titled *Social Organization of Sport: Alternatives to Burnout*, which expresses the view that stress is merely a symptom and not the cause of burnout. This theory highlights how the social structure of high-performance sports can inhibit athletes' autonomy in their decisions regarding when and where to engage with competition, reinforcing a one-dimensional athlete identity (Smith, 2021). Athletes who only define themselves by their sports role and do not have a say in whether they can compete or not are particularly at risk for burnout. Although this view has received some empirical support, it sheds light on additional organizational and identity-related considerations that may complement stress-based models

2.4 Sport Commitment Approach

However, there are differing sources of commitment to swim—in particular, the sport commitment approach (Scanlan et al., 2014)—which suggests that athletes committed to sport through entrapment—feeling they “have to” rather than “want to” participate—are at a greater risk of burnout (Smith, 2021). Empirical support exists for the separation between committed-enthusiast and committed-entrapment labels, with entrapment-based profiles predicting higher burnout symptoms.

2.5 Integrated Models

Realizing that athlete burnout is a multidimensional construct, Gustafsson et al. (2017) combined aspects of the preceding theories to generate an integrated model. This detailed framework consists of personality traits, coping strategies, environmental context, warning signs, and the effects of burnout. The integrated model provides a comprehensive understanding that recognizes the interrelation of individual, social, and organizational factors in burnout development and is therefore beneficial for both research and practice.

3. Measurement and Assessment

3.1 The Athlete Burnout Questionnaire

There are existing questionnaires that have used athlete population samples in their construction, but

the Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001) is the first and still only currently validated sport-specific measure of burnout and remains the gold standard measure (Gustafsson et al., 2017). The ABQ was intended as an adaptation of the Maslach Burnout Inventory–Human Service Survey, which measures occupational burnout and comprises the three core dimensions of athlete burnout: emotional and physical exhaustion, reduced sense of accomplishment, and sport devaluation. The ABQ design allows for systematic comparisons across studies and populations, which explains its widespread use. Most systematic reviews of athlete burnout in team sports have critically appraised studies employing the ABQ to ensure either measurement consistency (Woods et al., 2022)

3.2 Limitations and Emerging Approaches

However, the ABQ and other common measures of athlete burnout face several important limitations despite their widespread use. These instruments are also not bound to diagnostic criteria or specific clinical cut-off scores; therefore, prevalence estimates should be considered only approximations (Gustafsson et al., 2017). Burnout estimates ranged between 1% and 9% for those who had experienced burnout in the past year, and about 1–2% exhibited high levels in every single dimension.

Furthermore, self-report instruments can be influenced by social desirability bias and may fail to capture the nuances of burnout experience. Due to these acknowledged limitations, researchers have investigated the psychophysiological markers of athlete burnout (Moore et al., 2024). There are many other promising biomarkers, including hypothalamic-pituitary-adrenal axis markers, such as salivary cortisol at bedtime, and autonomic nervous system measures, including vagally mediated heart rate variability during rest (Moore et al., 2024). Although these objective physiological markers may support self-report measures and help improve the assessment of burnout status, further research using homogeneous methods is warranted to confirm their validity and clinical utility [1].

4. Causes and Risk Factors

Athlete burnout is a multi-layered phenomenon stemming from a multitude of individual, social, and organizational factors. In this part, we summarise the evidence regarding the main causes implicated and risk factors identified in systematic reviews and meta-analyses done in recent years

4.1 Stress and Training Demands

Chronic stress is a basic antecedent of athlete burnout. In a recent systematic review and meta-analysis of the association between athlete stress and burnout, consistent evidence for an association between psychological stress, as assessed via self-reported perceived psychological stress, to predict burnout symptoms was reported (Lin et al., 2021). It has been argued that prolonged periods of high training loads, unrealistic performance expectations, and insufficient recovery periods generate chronic physiological and psychological challenges that may exceed athletes' available coping resources. The athlete stress–burnout relationship is especially salient when athletes perceive external demands that surpass their ability to cope successfully (Fletcher & Sarkar, 2013; Lin et al., 2018).

4.2 Perfectionism

While perfectionism is known to be an important risk factor contributing to athlete burnout, the relationships are complex. We separate perfectionistic strivings (high personal standards) from perfectionistic concerns (fear of mistakes and worry about others performance evaluations). Evidence from meta-analyses of team sport athletes indicates that socially prescribed perfectionism (defined as the belief that important others hold unrealistically high expectations) is positively associated with burnout (Woods et al., 2022). In contrast, self-oriented perfectionism, which refers to setting high standards and aspirations for oneself, is negatively correlated with burnout and may be a protective factor (Woods et

al., 2022). The long-term association between perfectionistic concerns and burnout demonstrates the need to include maladaptive perfectionism in prevention efforts (Gustafsson et al., 2017) because it predicts increases in burnout over time.

4.3 Motivational Factors

Motivational quality is essential in the course of burnout development. Burnout risk is also increased for athletes with amotivation, that is, motivation to participate or unclear reasons for participation (Woods et al., 2022). Sales-oriented athletes who entered sports by way of compulsion instead of genuine passion appear to have greater burnout symptoms. Burnout also shows very strong negative correlations with self-determined motivation and moderate positive relationships with amotivation (Woods et al., 2022), as shown in the meta-analytic results. Obsessive passion, which is associated with rigid persistence and compulsive feelings about engagement with activities, has shown positive relationships with burnout, whereas harmonious passion, which is characterized by flexible persistence and autonomous motivation towards engagement, showed negative relationships (Woods et al., 2022).

4.4 Psychological Need Thwarting

In line with the Self-Determination Theory, thwarting of the three basic psychological needs—autonomy, competence, and relatedness explains a large part of the burnout risk. It is well established through meta-analytic evidence that burnout is negatively correlated with autonomy, competence, and relatedness satisfaction (Woods et al., 2022). Athletes with a sense of reduced control over training decisions, feeling ineffective regardless of effort, and lacking meaningful relationships with teammates and coaches are uniquely susceptible to burnout.

4.5 Coach-Athlete Relationships and Social Factors

Coach-athlete relationships are a key interpersonal factor in burnout. In contrast, controlling coaching styles, which combine pressure and intimidation with conditional regard (Woods et al., 2022), are positively correlated with burnout. In contrast, autonomy-supportive coaching (i.e., offering alternative options, recognizing athletes' perspectives, and minimizing pressure) appeared to have a negative association with burnout (Woods et al., 2022).

Social factors also play a role in the risk of burnout among nurses. In meta-analytic reviews, social support from coaches, teammates, and family members was a protective factor against athlete burnout (Pacewicz et al., 2019). Peer conflict and social isolation are negative social experiences that induce aromatase (Gustafsson et al., 2017) and are associated with burnout risk. As the motivational climate created by coaches and teams is also relevant, ego-involving climates characterized by social comparison and a desire to win at all costs are positively associated with burnout, whereas atmospheres that emphasize personal improvement and effort are negatively associated with burnout (Woods et al., 2022).

4.6 Identity and Control

Athletes who experience a one-dimensional athletic identity by placing the entirety of their self-worth into their sporting role have an increased risk of burnout, which is worse for those who have low levels of control over their participation decisions (Smith, 2021). The consequence of this identity foreclosure is that the athlete's self beyond sport is limited, and that there is an additional vulnerability if athletic failure occurs or participation in sport becomes aversive. To make matters worse, they lack control over when they train, the competitions they compete in, and other decisions related to their participation.

4.7 Affective Factors

Burnout is a cumulative process; that is, emotional experiences influence the burnout process.

Considerably more meta-analytic evidence has demonstrated that negative affect is positively related to burnout, and that positive affect is negatively related to burnout (Woods et al., 2022). Athletes who display more negative than positive emotions during training and competition, such as fear, anxiety, frustration, and anger, are thought to be at a greater risk of burnout.

5. Consequences of Athlete Burnout

The deleterious consequences of athlete burnout are pervasive and cross-pollinate into psychological health, physical health, performance and career trajectories.

5.1 Mental Health Consequences

Many mental health problems are closely related to athlete burnout. Studies have shown an explicit association between burnout and depression, as athletes who experience burnout report high levels of depressive symptoms (Francisco et al., 2016). Burnout and mental health are likely linked, and this connection is bidirectional: burnout results from psychological distress, but psychological distress also contributes to burnout. Burnout is associated with increased psychosocial stress (Francisco et al., 2016), including anxiety and negative affect in athletes. The emotional exhaustion component of the syndrome is most strongly related to depression and emotional distress.

5.2 Performance Decrements

While it is often presumed that burnout only affects motivation and well-being in athletes, recent multi-sample investigations have demonstrated important associations between athlete burnout and sports performance (Olsson et al., 2024). Athletes with burnout show lower performance levels, reduced training efficacy, and decreased competition results. The diminished sense of accomplishment dimension of burnout, in particular, is often tied to performance decrements, creating a feedback loop in which poor performance breeds feelings of incompetence that further deteriorate performance.

5.3 Sport Dropout and Withdrawal

Premature withdrawal from sports is one of the more severe consequences of athlete burnout. Burnout is an increasingly common reason for sports dropout, and athletes have identified the syndrome as the reason for leaving sports altogether (Woods et al., 2022). This is particularly alarming when it means that athletes in their prime are either lost as signings to a team or a loss via absence for the sport itself. The cynicism dimension (a lack of expectation that sport participation will be enjoyable or worthwhile) of sport devaluation burnout was the strongest predictor of dropout intentions and dropout itself.

5.4 Motivational Consequences

Among athletes, motivation is significantly affected by burnout, with lower levels of intrinsic motivation, increased amotivation, and enjoyment in sports participation (Gustafsson et al., 2017). Burned-out athletes state that things they used to enjoy and which felt rewarding become aversive and burdensome. This motivational robbing does not only impact sports participation but can be generalized into other life domains, such as academic performance, social relationships, and life itself.

5.5 Temporal Trends

The most concerning aspect seems to be the exacerbation of the symptoms of athlete burnout, which increased significantly over time. In a cross-temporal meta-analysis of average burnout levels from 1997 to 2019, Madigan et al. (2022) found that athletes' mean levels of reduced sense of athletic accomplishment and devaluation of sports increased significantly during this timeframe. The trend over time therefore suggests that athletes might be at higher risk for burnout today compared with historical cohorts of athletes, which may be a mirror image of the increased performance pressures,

professionalization of youth sports, and demands for high-volume training in general. Consequently, with burnout symptoms being more common in athletes than in the past, a growing number of athletes now face the detrimental consequences of burnout, demonstrating a pressing and increasing need for effective burnout prevention and intervention approaches (Madigan et al., 2022).

6. Prevention and Intervention Strategies

In a broader context, athlete burnout is an extremely serious issue that appears to be on the rise and warrants evidence-based prevention and intervention strategies. This section integrates research on what works to mitigate and prevent burnout.

6.1 Cognitive-Behavioral Interventions

Cognitive-behavioral Therapy (CBT) has been shown to be an effective treatment for preventing burnout symptoms. CBT-based interventions have been shown to reduce most dimensions of burnout in youth athletes, according to a systematic review and meta-analysis (Wilczyńska et al., 2022). These approaches focus on maladaptive thinking, coping skills, and encouraging behavioral changes that curtail stress and contribute to general well-being. Strikingly, online delivery of CBT interventions was compared to in-person delivery, and online delivery was shown to have greater benefits, which may indicate a positive step towards greater accessibility and effectiveness of treatment via digital platforms (Wilczyńska et al., 2022).

6.2 Mindfulness-Based Interventions

Another evidence-based approach to burnout prevention and treatment is mindfulness-based intervention. The meta-analytic evidence on youth athlete burnout is promising, as mindfulness-based interventions have been shown to be effective in reducing burnout dimensions (Wilczyńska et al., 2022). Such interventions, through greater presence, less judgement, and reduced ruminative action, help empower athletes to manage stress better and maintain a greater balance in life. Negative relationships with burnout have been found for dispositional mindfulness—the tendency to be present and aware in everyday life indicating that improving mindfulness skills could be a protective factor (Gustafsson et al. 2017).

6.3 Autonomy-Supportive Coaching

Changing the coach's behaviors is a key prevention measure. Research examining collegiate soccer coaches' (men: $n = 313$; women: $n = 335$; Kroshus et al., 2017) yielded two major findings: (i) burnout prevention strategies used by coaches (men: $n = 187$; women: $n = 229$) that endorsed, but less so for managing physical stressors: promote autonomy promote relatedness. Thus, based on meta-analytic findings showing that autonomy-supportive coaching–burnout relationships are negative while controlling coaching burnout relationships are positive (Woods et al., 2022), training coaches to use autonomy-supportive practices is a clear and actionable intervention priority. Autonomy-supportive coaching involves offering choices to athletes, recognizing their views, reducing pressure and control, and supporting their intrinsic motivation.

6.4 Managing Physical Stressors

The most commonly endorsed burnout-prevention technique for college coaches is limiting physical stressors (Kroshus et al., 2017). It consists of proper periodization of training load, appropriate periods of recovery, tracking of training volume and intensity, and prevention of overtraining. However, physiological management is insufficient, as burnout occurs from both psychological and physical sources. The prevention strategy must incorporate physical and psychological stressors.

6.5 Social Support Enhancement

Because of the protective nature of social support, strategies that optimize support from coaches, teammates, and family members are valuable for prevention. Meta-analytic evidence (Woods et al., 2022) corroborates that social support is negatively associated with employees' burnout. Recommendations to foster social support include creating positive team climates, encouraging open communication between coaches and athletes, promoting peer support networks, and involving families in athletes' support programs.

6.6 Addressing Perfectionism

Given that perfectionistic concerns are a major risk factor for burnout, it would be reasonable to include interventions aimed at maladaptive perfectionism in future studies. Research outside of sports indicates that perfectionistic concerns can be successfully reduced by cognitive-behavioral interventions and guided self-help (Gustafsson et al., 2017). It might be beneficial to adjust these strategies for athletes to limit the likelihood of burnout, as fear of failure, fear of mistakes, and self/other-imposed perfectionistic demands can all elevate the risk of burnout.

6.7 Identity Diversification

Given that unidimensional athletic identity combined with a lack of control is a risk factor for burnout (Smith, 2021), helping athletes create more multidimensional identities is an important prevention strategy. Promoting relationships, interests, and skills in areas other than sports may help foster psychological resources and diminish susceptibility to burnout in the face of performance failures in sports.

6.8 Motivational Climate Modification

To prevent burnout, task-involving motivational climates where improvement, effort, and mastery matter more than social comparison and winning at all costs need to be created. Evidence from a meta-analysis indicated that ego-involving climates are positively related to burnout and that task-involving climates are protective with respect to burnout (Woods et al., 2022). Finally, creating environments that help satisfy autonomy, competence, and relatedness (which leads to intrinsic motivation) must be prioritized at the level of coaches and sports organizations (see e.g., the culture in sports).

6.9 Current Gaps and Future Directions

Although evidence for alternative interventions is increasing, there are still many evidence gaps. More intervention research has been conducted on physicians, nurses, and teachers than on athletes (Madigan & Gustafsson, 2023). Although these professional findings are informative for guidance, there is an urgent, compelling need for high-quality randomized controlled trials of burnout interventions in athlete populations (Wilczyńska et al., 2022). Furthermore, research is needed to identify the timing, duration, delivery mechanisms for interventions, and moderators of intervention effects.

7. Discussion

Summary Background This systematic literature review examines the state-of-the-art knowledge on athlete burnout, a complex phenomenon with multiple causes, serious implications, and hopeful solutions for prevention. We identified several related themes that warranted discussion.

7.1 The Multifaceted Nature of Burnout

A wealth of evidence indicates that athlete burnout is a manifestation of several individual, interpersonal, and organizational factors and not a single causal pathway. In total, stress and training demands,

perfectionism, motivational quality, psychological need thwarting, coach–athlete relationship quality, social factors, and identity issues emerged as risk factors for burnout. This complex cause has important implications for prevention and intervention: multifactorial approaches that address multiple risk factors simultaneously are likely to be more successful than narrow interventions focused on individual drivers. The integrated model of athlete burnout (Gustafsson et al., 2017) can help, as it points to the complex interactions among these factors and can help develop broader intervention strategies.

7.2 The Growing Prevalence of Burnout

It is alarming that the prevalence of symptoms of athlete burnout has increased markedly over the past two decades (Madigan et al., 2022) and requires immediate action from the sports community. This temporal trend implies that contemporary sports contexts may be associated with more burnout than in the past, perhaps driven by the increased professionalization of youth sports, increased training volume and intensity, performance pressure, and lower relative emphasis on enjoyment and development. Systemic reform in the organization and delivery of sports, especially in youth and developmental structures, will be needed to reverse this trend.

7.3 The Critical Role of Coaches

Coaches play a key role in both building and mitigating burnout. Therefore, burnout risk is heavily influenced by the quality and type (autonomy-supportive versus controlling) of coaching style and the motivational climate set by coaches (Woods et al., 2022). However, studies examining coaches' perceptions of their actual use of burnout prevention strategies suggest that coaches primarily manage physical stressors while under-utilizing psychological and motivational strategies (Kroshus et al., 2017). The divide between evidence and practice underscores the necessity for comprehensive coach education courses that could provide coaches with knowledge- and skill-based learning to identify, prevent, and manage athlete burnout. These programs should focus on autonomy-supportive coaching practices, developing task-involving motivational climates, and strategies for building and maintaining positive coach–athlete relationships.

7.4 The Promise of Psychological Interventions

Promising evidence exists that cognitive-behavioral and mindfulness-based interventions can effectively reduce burnout symptoms (Wilczyńska et al., 2022). Such approaches equip athletes with psychological skills and strategies to deal with stress, regulate emotions, reframe maladaptive thinking patterns, and promote their well-being. This finding that online interventions are especially effective (Wilczyńska et al., 2022) is particularly pertinent in the current digital age and is likely to improve accessibility for athletes unable to access face-to-face services. In contrast, the comparatively small number of high-quality intervention studies published with athlete populations leaves an important gap that needs to be addressed by well-conducted randomized controlled trials.

7.5 Measurement Challenges and Opportunities

The Athlete Burnout Questionnaire has enabled the systematic study of burnout; however, the relative absence of diagnostic criteria and clinical cut-off scores restricts the identification of athletes at the highest risk and the viability of treatment evaluation. Emerging investigations regarding psychophysiological markers of burnout (Moore et al., 2024) also hold the prospect for a more objective evaluation, although much work must be done to firmly establish the validity and clinical utility of such biomarkers. Using a historical framework, future studies should focus on broad evaluation methods that combine self-report measures, physiological signals and observational assessments.

7.6 Limitations of Current Research

There are a few limitations to the current literature. First, a large part of the research rests on cross-sectional designs, which restricts conclusions regarding temporal and causal relationships. It is important that prospective research sheds light on the developmental course of burnout, and new longitudinal research (Dišlere et al., 2025) is emerging in this direction; however, longitudinal studies need to be conducted to explore the temporal dynamics of burnout (Piekkari et al., 2021). Second, the vast majority of studies capture relationships at the group level between the variables of interest, often neglecting individual differences and person-centered approaches that would identify unique burnout profiles. Third, research on burnout has largely been conducted in Western, individualistic cultures, and has attracted less attention to cultural differences in the experience and risk factors of burnout. Finally, the focus on elite/collegiate athletes means that less data are currently available on burnout in recreational and master athletes.

7.7 Practical Implications

These results have several practical implications. The evidence for comprehensive burnout prevention programs targeting risk factors at multiple levels (e.g., training load management, coach education, social support enhancement, and psychological skills training) is relatively more robust for sports organizations. Research on coaches emphasizes the importance of more autonomy-supportive coaching behaviors, more task-involving motivational climates, and more positive athlete–coach relationships. Together, the evidence supports the role of sports psychologists and mental health professionals in applying cognitive-behavioral and mindfulness-based interventions for athletes to cope with stressors and avoid risk factors or to treat burnout symptoms. For those who experience it directly, the studies underscore the importance of developing multidimensional identities, fostering social support systems, and obtaining assistance when struggling with burnout.

8. Conclusion

Burnout among athletes is a common but relatively recent issue that can affect both the well-being and performance of an athlete throughout his lifetime; thus, it remains a serious problem in modern sports. The results suggest that burnout is best viewed as a psychobiological process emerging from dynamic interactions between different stress and training demands, perfectionist orientations and personality characteristics, motivational processes, psychological need thwarting, quality of the coach–athlete relationship, and social-environmental circumstances (Table 2). Burnout has ramifications across psychological health, performance, and sport participation, with concerning evidence for a meaningful two-decade increase in the symptoms of burnout.

Fortunately, several evidence-based prevention and intervention approaches have been developed, including cognitive-behavioral therapy, mindfulness-based interventions, autonomy-supportive coaching, social support enhancement, and identity diversification. Nonetheless, limitations persist in our understanding of athlete burnout, particularly concerning the longitudinal approach to development, culture/population-specific differences, individual variability, and intervention impact on athlete samples.

Going forward, burnout prevention and intervention in sports must be targeted through systemic changes to how we organize and deliver sports, education for every coach from grassroots to elite level, accessible mental health services, and support within our system from a young age all the way to retirement, alongside ongoing research designed to drive better understanding of this process and improve interventions. Considering the long-term upward trajectory of burnout symptoms, prevention and intervention strategies need to be implemented in sports to halt this worrying pattern (Madigan et al., 2022). Combining research evidence with practical application allows us to establish sports environments that support athlete well-being, promote long-term participation, and protect against

burnout and other serious forms of training maladaptation.

Moving towards the future means breaking down silos across research, practice, coaching, sports administration, and athletes to convert evidence into practice and build genuine sports cultures that value long-term athlete development and holistic health alongside optimal performance. Approaches of this breadth, grounded in science and supported by evidence, are the only way to properly tackle the increasing issue of athlete burnout and help create a sporting culture where being involved in sports is a positive experience for everyone who participates.

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