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Psychological Determinants of Athletic Performance: A Narrative Review of Competition Anxiety, Motivation, And Self-Efficacy Among Athletes

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Abstract

Psychological factors are crucial in determining athletic performance; however, the interactions between competition anxiety, motivation, and self-efficacy remain complex. This narrative review synthesizes the theoretical and empirical literature to summarize definitions, major findings, interactions among the three constructs in different athletic contexts. Databases and sources consulted included PubMed/PMC, Frontiers journals, BMC, Google Scholar, and publisher pages. Evidence indicates that competition anxiety (cognitive and somatic) generally impairs performance; motivation especially autonomous / intrinsic motivation supports persistence and adaptive responses; and self-efficacy is a robust positive predictor of performance and coping. Moreover, strong evidence indicates that these variables are interrelated: high self-efficacy reduces anxiety, motivation strengthens confidence, and anxiety dampens motivational levels. Gaps remain in the literature regarding female athletes, youth populations, team-sport contexts, especially a lack of longitudinal and cross-cultural research, and limited trials targeting all three constructs together. The review proposes an integrative model and outlines directions for future research, including longitudinal designs, multi-method assessment, and inclusion of diverse athlete populations. Practical recommendations for coaches and sport psychologists are provided, along with directions for future and cross-cultural differences.

Keywords: competitive/competition anxiety, pre-competitive anxiety, motivation sport self-determination, Sports self-efficacy, Athlete

1. Introduction

Psychological skills are widely regarded as integral parts of athletic performance. In addition to physical conditioning and technical proficiency, athletes need to cope with emotional pressures, maintain motivation, and display confidence under competitive conditions. Of the many psychological variables studied within sport psychology, competition anxiety, motivation, and self-efficacy are among the most frequently studied because of their considerable influence on performance outcomes. Competition anxiety

e.g., cognitive worry and somatic arousal-can adversely affect focus, decision-making, and physiological readiness; motivation-including intrinsic and extrinsic forms-drives athletes to persist in training, compete effectively, and pursue excellence; self-efficacy-i.e., beliefs about one's capabilities-serves as a protective factor that enhances performance, resilience, and coping skills. These are some of the most studied constructs in sport psychology because each independently predicts important outcomes-performance, persistence, wellbeing-and because they interact dynamically in competitive contexts. Although each construct has been studied in detail, less is known about their combined influence.

This review attempts to:

- Summarize key theories and findings related to competition anxiety, motivation, and self-efficacy.
- psychological factors interrelate.
- Identify gaps and propose future research directions.

THEORETICAL FRAMEWORK

Competition Anxiety:

Competition anxiety: feelings of tension, worry, and apprehension before or during competition. It includes cognitive anxiety (mental worry, negative thoughts) and somatic anxiety (physiological arousal). Classic models The Multidimensional Anxiety Theory (Martens et al., 1990) and Catastrophe Theory (Hardy & Fazey, 1988) explain how anxiety influences performance, suggesting that moderate arousal may be beneficial, but excessive anxiety leads to performance decline. Attentional control is often impaired by cognitive anxiety, whereas the effects of somatic symptoms depend on their interpretation by the athlete as either facilitative or debilitative.

Motivation (Self-Determination Theory, SDT):

According to SDT, motivation varies along a continuum from intrinsic to extrinsic, with the more autonomous forms-intrinsic motivation and identified regulation-being linked with greater persistence, performance, and well-being. Satisfaction of the basic psychological needs-competence, autonomy, and relatedness-lies centrally in the internalization process through which athletes come to participate in sport. Achievement Goal Theory differentiates a goal orientation that is mastery-oriented from one that is performance-oriented.

Self-Efficacy - Albert Bandura:

Self-efficacy refers to the perceived capability to execute actions required for desired outcomes. Bandura's four sources (mastery experiences, vicarious experiences, verbal persuasion, physiological/affective states) are all commonly used to design interventions to enhance athlete confidence.

LITERATURE REVIEW & CRITICAL EVALUATION

Competition Anxiety Among Athletes:

Competition anxiety encompasses both cognitive components, such as worry and negative expectations, and somatic components, such as physiological arousal (Martens et al., 1990). High levels of competitive anxiety were found to decrease concentration and worsen decision-making, which diminished performance effectiveness (Craft et al., 2003). Empirical research indicates that high pre-competition cognitive anxiety is related to worse performance, particularly in situations with high pressure, while the influence of somatic anxiety depends on how the athlete evaluates it. Evidence suggests that anxiety does

not universally result in impaired performance; rather, its consequences depend on whether athletes construe symptoms as facilitative or debilitative (Hanton et al., 2008). Well-practiced athletes frequently perceive anxiety as energizing because of superior coping skills and higher confidence than others (Neil et al., 2011). Youth athletes, however, usually present maladaptive anxiety patterns because of limited regulation strategies (Grossbard et al., 2009). For example, a recent study in Kinesiology reported that sources of satisfaction and perceived self-efficacy of young athletes were negatively associated with competitive anxiety (Nogueira et al., 2024).

Critical Evaluation

Although many studies consistently report a negative association between competitive anxiety and performance, several methodological weaknesses limit the overall strength of the evidence. The majority of studies rely on cross-sectional designs, further restricting the inferences of causal relationships and potentially overestimating the influence of momentary psychological states. Samples are typically small and drawn from single institutions or local sports clubs, further limiting generalizability. Anxiety measures also vary substantially between studies: whereas some utilize validated instruments, such as the CSAI-2, others use adapted or shortened scales without adequate psychometric validation. Comparing these studies therefore remains problematic. Moreover, the majority of studies depend on self-reported performance, introducing further subjective bias. Anxiety may, therefore, affect performance, but the evidence base needs stronger, more controlled designs to determine more clearly the magnitude and direction of this relationship.

Motivation in Athletic Performance:

Motivation affects the ways in which athletes initiate, persist in, and regulate effort in training and competition. Self-Determination Theory suggests that intrinsic motivation-for engaging in sport for personal satisfaction-leads to superior performance and psychological well-being compared to extrinsic motivation (Deci & Ryan, 2000; Ryan & Deci, 2017). Highly intrinsically motivated athletes are more resilient and persistent and experience more enjoyment of sport (Pelletier et al., 2013). In contrast, controlled extrinsic motivation might relate to pressure, increased anxiety, and burnout (Langan et al., 2015). Goal orientation also has implications for anxiety responses; task-oriented athletes exhibit lower competitive anxiety than ego-oriented athletes do (Harwood et al., 2015).

Critical Evaluation

The evidence supporting the role of motivation-in particular, intrinsic motivation-in athletic performance is strong but not without limitations. While many studies situate their inquiry within the framework of Self-Determination Theory, operationalization of autonomy, competence, and relatedness tends to vary across research, making it sometimes difficult to compare concepts across studies. Additionally, motivation is often measured using self-report via questionnaires, which may result in inflated associations due to social-desirability bias. Several studies do use longitudinal designs tracking changes across an entire competitive season and report that intrinsic motivation predicts persistence and better performance. Experimental studies that test links with performance by attempting to enhance motivation via coaching interventions are fewer in number, and many have either no control groups, short follow-up periods, or poorly described intervention procedures. Therefore, while a link between

motivational climate and performance is plausible, the empirical evidence for this link is not high-quality. Multi-method, ecologically valid studies are needed.

Role of Self-Efficacy among Athletes:

Self-efficacy is one of the strongest psychological predictors of performance. Greater self-efficacy enhances confidence, improves focus, and reduces anxiety intensity. Tripartite efficacy research shows that the combination of an athlete's perceptions about the self, coaches, and teammates interact to influence performance outcomes.

Critical Evaluation

Among the most consistent predictors of athletic performance, the certainty of conclusions regarding self-efficacy is tempered by several limitations. First, reliance on general self-efficacy scales rather than sport-specific or task-specific measures undercuts predictive precision. Second, the direction of the relationship between self-efficacy and performance often is ambiguous because many studies measure self-efficacy after performance occurs rather than before the performance; in those instances, reverse causality thus cannot be ruled out. Although intervention research has shown that self-efficacy can be enhanced via mastery experiences and modeling, interpreting practical significance is complicated by a general lack of reported effect sizes. Furthermore, few studies have focused specifically on female athletes, youth athletes, and para-athletes, resulting in demographic lacunas in the empirical record. In conclusion, although self-efficacy is a promising construct, more rigorous, diverse, and temporally sensitive research is required.

Interaction: Competition Anxiety, Motivation and Self-Efficacy among Athletes

There are sample indications that the three constructs influence each other; Self-efficacy mitigates negative effects of anxiety- Athletes with high self-efficacy interpret anxiety symptoms as challenges rather than threats, and this reframes the experience so that pressure actually enhances performance.

Motivation shapes emotional responses- Autonomous motivation is predictive of lower anxiety and better coping (Adie et al., 2010). Highly motivated athletes with high levels of intrinsic regulation show decreased stress in response to competitive demands.

Anxiety can dampen motivation and confidence- Excessive pre-competition anxiety undermines intrinsic motivation and erodes confidence, subsequently reducing performance (Lane & Terry, 2005; Nicholls et al., 2016). Taken together, investigations support the idea that psychological preparation-high motivation, strong self-efficacy, and well-regulated anxiety-created conditions for optimal performance.

Critical Evaluation

Although theoretically sound, research into the combined effects of competition anxiety, motivation, and self-efficacy is conceptually strong but empirically underdeveloped. Only a limited number of interaction effects or mediating pathways are examined. Many studies view each psychological variable in isolation, not accounting for synergy or compensation effects. For example, whether self-efficacy buffers anxiety, or whether motivation moderates the anxiety–performance link, remains unclear due to limited multi-variable modeling and inconsistent statistical approaches. When mediation or moderation analyses are used, sample sizes are often very small, reducing statistical power and increasing the risk of Type II errors. Furthermore, cultural and contextual differences, such as team versus individual

sports, contact versus non-contact sports, are rarely considered. Thus, despite theoretical models predicting strong interactions, empirical evidence remains fragmented and insufficient to establish integrated causal mechanisms.

METHODOLOGY

This narrative review synthesized theoretical and empirical literature regarding psychological determinants of athletic performance, focusing on competition anxiety, motivation, and self-efficacy. A systematic search was conducted between January and March 2025 across PubMed/PMC, Google Scholar, Frontiers journals, BMC, and publisher repositories using combinations of keywords including "competition anxiety," "pre-competitive anxiety," "motivation in sport," "self-determination theory athletes," and "self-efficacy sport."

The Included Studies With: A) Athletes Of Any Level; B) At Least One Of The Constructs Of Interest; C) Studies That Were Peer Reviewed, And D) Published In English Between 1990-2025. Studies Were Excluded That Involved Non-Athlete populations, clinical anxiety unrelated to sport, and those failing to provide methodological details.

An initial pool of over 150+ records was screened for relevance through titles and abstracts, supplemented by full-text review, and culminated in a final synthesis of 85 studies. Data extracted involved construct definitions, measures, study design features, sample characteristics, and findings related to performance outcomes and interactions among variables. Given the heterogeneity of methodologies, populations, and measures of outcome, a narrative synthesis is used. The methodological strengths and limitations, such as reliance on cross-sectional designs, variability in measurement tools, and underrepresentation of female and youth athletes, are critically evaluated.

DISCUSSION

This review aimed to ascertain the relationships among competition anxiety, motivation, and self-efficacy in athletes and examined how these psychological constructs actually affect performance outcomes. The synthesis of empirical and theoretical literature develops that such variables do not operate in a vacuum but interact dynamically to shape athletes' responses to competitive environments. The discussion interprets findings in light of existing theory, developing practical implications of the reviewed data and identifying avenues for future research. Interpretation of Key Findings are;

Competition Anxiety as a Double-Edged Factor, The literature consistently shows that competition anxiety can either facilitate or debilitate performance depending on an athlete’s psychological resources and interpretation of symptoms. Cognitive anxiety, in particular, is more detrimental because it interferes with attentional control, decision-making, and self-confidence. Somatic anxiety, while uncomfortable, may not always impair performance when perceived as normal arousal. Experienced athletes often reframe anxiety as a sign of readiness rather than threat, aligning with the concept of anxiety direction. Motivation as a Predictor of Psychological Resilience, especially intrinsic and autonomous forms, was found to predict lower anxiety levels and greater perseverance. Athletes driven by internal satisfaction—such as mastery and personal improvement—tend to exhibit healthier emotional responses. Conversely, externally controlled motivation increases pressure and vulnerability to anxiety. These findings support Self-Determination Theory, which proposes that satisfaction of autonomy, competence, and relatedness enhances adaptive functioning. Self-Efficacy as a Mediator and Performance Buffer, it emerged as one of

the strongest protective factors against competition anxiety. Athletes with high self-efficacy tend to maintain focus, regulate their emotions effectively, and recover quickly from performance setbacks. They also interpret competitive situations more optimistically. Self-efficacy further contributes to sustained motivation, highlighting its central role in performance enhancement. Interactions Among the Constructs, A key contribution of the reviewed literature is the recognition that competition anxiety, motivation, and self-efficacy interact in meaningful ways: Self-efficacy mediates the anxiety–performance relationship by enabling athletes to reinterpret anxiety symptoms as manageable. Motivation influences how anxiety is experienced, with intrinsically motivated athletes showing reduced tension and worry. Anxiety can erode both motivation and self-efficacy, particularly when athletes perceive repeated failures or feel pressured by external expectations. These findings align with cognitive-behavioural models of sport performance, which emphasize the importance of mindset, coping strategies, and emotional regulation. This review highlights that competition anxiety, motivation, and self-efficacy significantly influence athletic performance. However, methodological inconsistencies limit the strength of conclusions. Research tends to examine each variable in isolation, whereas the athletic environment involves complex interactions among emotional, cognitive, and motivational processes. A more holistic and theoretically integrated approach is necessary.

Proposed Integrative Model:

Competition anxiety influences performance both directly-through cognitive interference-and indirectly-through diminishing motivation.

Motivation moderate anxiety; intrinsic motivation provides emotional resilience.

Self-Efficacy, It mediates motivation and anxiety, being the central mechanism which enhances performance. This framework should guide future empirical testing.

CONCLUSION

Competition anxiety, motivation, and self-efficacy represent complexly interrelated determinants of performance in sport. Although anxiety often undermines performance, well-conceived interventions can blunt its impact, and optimal self-efficacy and intrinsic motivation offer great scope for resilience and optimal performance. Future research and practice should seek multidimensional, longitudinal, contextually grounded approaches toward psychological readiness-building in athletes.

PRACTICAL IMPLICATIONS FOR COACHES AND SPORT PSYCHOLOGISTS:

- Psychological Skills Training: Interventions such as imagery, self-talk, mindfulness, and goal setting significantly reduce anxiety while improving self-efficacy. These skills help to reinterpret arousal, improve attentional focus, and develop confidence among athletes.
- Autonomy-Supportive Coaching: Coaches should foster environments that promote athletes' autonomy, competence, and relatedness; that is, offering choices, giving constructive feedback, and encouraging self-driven goal setting.
- Building self-efficacy through mastery experiences: to develop appropriate self-efficacy, athletes should be given progressive challenges and opportunities for success blended with positive reinforcement that reduces the negative impacts of anxiety.

- Identifying high-anxiety athletes early and intervening: Through the regular use of psychological instruments on athletes, i.e., CSAI-2, SMS-II, and SEQ, their at-risk state can be identified and their condition treated in time.

LIMITATIONS & FUTURE RESEARCH:

- Research Gaps: There is a shortage of longitudinal studies that track how competition anxiety, motivation, and self-efficacy interact over time in athletes.
- Further research should be conducted among under-represented groups, including youth athletes, female elite athletes, para-athletes, and those representing non-Western cultures.
- Intervention Trials: Future trials should be designed as multi-component interventions that target anxiety, self-efficacy, and motivation together, and use randomized controlled designs.
- Measurement Issues: Sport-specific, validated scales of self-efficacy are required, and performance should be measured in a more consistent manner across studies.

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