

A Comprehensive Review of the Relationship Between Anxiety and Athletic Performance

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Abstract

This is a comprehensive review that focuses on the complex association between anxiety and performance in sports literature traces from both Indian as well as international studies. Cognitive, somatic, trait and state anxiety are introduced as the predominant psychological aspects that directly determine athletes' performance results. Some of the key themes are related to sex differences in anxiety levels, role psychosocial interventions and influence of bio-psychosociocultural stress on Indian scenario. The article emphasizes that athletes performing poorly due to an inability to concentrate, lack of coordination and the absence of emotional regulation are some symptoms when anxiety is not being taken care of properly. On the other hand, interventions with organised psychological help, e.g. mindfulness, autogenic training and respiratory techniques lead to a higher mental robustness and competitive achievements. This review serves as a cornerstone for the development of athlete orientated mental health tactics within sports psychology.

Keywords: Anxiety, Athletic Performance, Psychological Intervention, Competitive Stress, Sports Psychology

Introduction

Over the past several years, an increasing scholarly and applied interest in how psychological variables impact on sporting success has emerged. Among these, anxiety is one of the most significant and well investigated variables. Anxiety generally refers to a negative emotional state even when its specific nature (apprehension and tension) is mentioned, which is particularly relevant in competitive field such as sports where the stakes are high for one's performance and results remain unpredictable (Debnath & Sharma, 2024). Athletes' anxiety, be it cognitive or somatic, state or trait has been found to strongly impact on physiological response as well as on attentional focus and motor responses, with consequent positive or negative effects on performance. The presence of a certain amount of anxiety may increase alertness and preparedness, but excessive or poorly controlled anxiety interferes with focus, increases muscle activity, reduces levels of coordination (Chavan, 2024).

The discourse on sports psychology in India has matured with greater attention being focused towards mental health, performance stress and psychobiological readiness in competitions. Studies conducted by Sharma (2022) and Gurjar and Solanki (2023) emphasized the relation between anxiety in Indian university athletes and consistent variations in performance especially when it comes to inter-university competitions and national selection trails. Rural and low SES athletes may experience added stressors including the absence of role models, lack of support systems and higher expectations which exacerbate symptoms of anxiety. Indian scholars have written that while cultural specific pressures is adding in the anxiety level, it's theatrical mode could not let player to focus on games (Hajam, 2022).

There are two main types of anxiety that affect athletes, a state anxiety (transitory emotional condition around the time of an event), and trait anxiety (predisposition over time and situations) (Weinberg & Gould, 2020). State anxiety tends to increase prior to or during competition, whereas trait anxiety refers to the natural tendency for each person to be anxious across different situations. Indian studies (Singh, 2023) point out that while athletes with low trait anxiety perform better for their best performance under pressure both group of the athlete performs well but they have already set a long term psychological limits towards accepting and delivering high performance. Gurjar and Solanki (2023) also examined male and female athletes from Madhya Pradesh to determine the extent to which anxiety is internalized and managed, finding differences between males and females concerning how they experience anxiety. Somatic symptoms, such as sweating and elevated heart rate, were reported more frequently by male athletes whereas cognitive anxiety (e.g. fear of failure and self-doubt) was more prevalent in female players. These results are consistent with international literature pointing out the gendered and context specific nature of anxiety, highlighting a need for subtle approaches.

Furthermore, a very relevant factor here is the nature of the sport. In individual sports (Running and Tennis), sportspersons rely more on themselves where their spotlight is more that of personal achievement, leading to elevated state anxiety than in team sports (Adhikari & Mukherjee, 2022). Sharma (2022) conducted a study on inter-university athletes of West Zone India and found that performance decline due to cognitive anxiety in solo-sport athletes was greater than the team sport with peer dynamics leading to support and resilience.

Indian literature has also started focusing on culturally tailored intervention models for athletes to manage performance related anxiety. Debnath and Sharma (2024) investigated the efficacy of autogenic training in adolescent Indian athletes, demonstrating benefits in attention and psychophysiological adjustments. These are important findings provided as many coaches and athletes in India still lean more towards physical preparation concentrating less on psychological preparedness that can provide the edge at an elite level.

Psychological defense mechanisms are becoming focus of research as well. Singh (2023) suggested that Indian players often adopt maladaptive defense mechanisms like denial and projection during competitive stress, which will create temporary defenses against anxiety, but not maintain consistent performance. Mindfulness, cognitive-behavioral treatment and even formal sports psychology counseling are gradually finding acceptance in coaching programs—though access is confined to urban areas and elitist institutes.

The association between anxiety and performance in sport has been widely speculated about on an international level. The Catastrophe Theory and the Multidimensional Anxiety Package These are two predominant models that offer an explanation as to why increased anxiety might impact performance not in a linear fashion as follows: (Weinberg & Gould, 2020). Although these models offer a good basis, they have not yet been employed and researched more intensively in India, primarily because sports psychology has rarely been integrated in mainstream sports or for that matter normal physical education training. There is an urgent need for such theories to be validated among Indian sports persons by local empirical level particularly at regional and grassroots event.

In the Indian context, a positive step in this intervention direction would be to integrate sports psychology modules slowly into physical education and coaching curriculum. Some colleges like Swami Vivekananda University have already included crucial talks on anxiety, stress and perfectionism in sports (Adhikari & Mukherjee, 2022). So this is important, because early identification and treatment can really diminish long-term psychological problems in athletes.

Accordingly, the role of anxiety in performance may be complex, multidimensional and context dependent. Indian literature is beginning to keep up with the world in understanding not just what types and symptoms of anxiety are, but also what socio-cultural factors influence how, on whom and when anxiety impacts on athletes. With increasing performance pressure in elite and amateur sports, particularly with India's stratospheric rise on the global stage of competitive

sport, knowledge about management of anxiety becomes imperative. This review has the objective of consolidate existing knowledge from Indian and some international studies on the above topic, providing an overview of how anxiety influences athletic development, i.e., right from ground zero to podium-stand.

Review of Literature

Jadhav (2018) investigated the impact of pranayama on competitive anxiety in district level sports-person and found that the effects were both psychological and physiological. Following a month-long breathing exercise, athletes described enhanced self-awareness and reduced agitation. Daily breathing exercises may have benefits for competitive runners, too. The study found that athletes who learned daily breathing techniques ran better under time pressure.

Fernandes, Nunes, Raposo, Fernandes and Brustad (2019) studied the effect of cognitive anxiety on soccer players' in-game decisions. Anxious athletes performed more slowly and with far less dexterity in key high-pressure events. The study supports training the athletes to cope with anxiety in scenario-based exercises.

Mishra (2019) investigated the combined influence of academic stress and sports competition on anxiety among school level athletes. Students from private schools in urban area reported higher levels of anxiety relating to the issue of performance of performance pressure on academic and sports than their rural counterparts. Both balanced scheduling and parent-teacher-athlete meetings were recommended.

Roy (2019) investigated the impact of mindfulness training on anxiety level in national-level kabaddi players. Eight weeks following a training programme, participants experienced less stress and more concentration during matches. The study recommended mindfulness as a scalable, non-invasive intervention to promote mental health in sports.

Kumar (2020) investigated the impact of anxiety on shot accuracy with under-17 basketball players from Delhi. Regarding consistency of scoring, athletes with high anxiety showed lower results, particularly in the final quarters across games. Deep breathing and visualization exercises were recommended as fast habits to control in-game anxiety.

Sharma and Chawla (2021) targeted on pre-competition anxiety in university athletes. Time reaction and confidence diminished because of inappropriate attitudes and lack in mental

practice, as the research showed. It highlighted that mental warm-ups are as important as physical warm-ups prior to matches.

Gucciardi and Dimmock (2021) studied team norms and perceived judgment as anxiety triggers in collective sports. Athletes were under great pressure to perform with unclear or punishing expectations from the team. And the researchers recommended that coaches create a "supportive environment" to lower instances of mental blocks.

Nicholls, Taylor, Carroll, and Perry (2022), in a meta-analysis of world class sport psychology research, posited that acceptance and mindfulness-based techniques are more successful in lowering anxiety than forms of avoidance. Such technique enhanced emotional regulation and competitive performance of athletes in all sports.

Adhikari and Mukherjee (2022) discussed perfectionism as an antecedent of anxiety in athletes. The authors noted that athletes with excessive self-standards also tended to dwell on minor mistakes, which caused performance concerns and a loss of confidence. It suggested mental training strategies that promote acceptance and compassion toward oneself when faced with failure.

Hajam (2022) has identified various anxiety stressors amongst Indian adolescent athletes. Primary stressors were parental pressure, academic overload, unclear coach expectations. Prevalence of stage fright was higher before selection trials. The study recommended the inclusion of a sports counselling package as well as stress management workshops with organised provision.

Sharma (2022) studied the role of anxiety and other psychological variables on athletes in the high-stakes inter-university competitive scenario. High trait anxious athletes were poor performers, and less amenable to coaching. The research recommended that institutions should introduce measures to identify and help alleviate the performance-related stress suffered by these skaters, via ongoing evaluation and support of sports psychologists.

Singh (2023) investigated the psychological defense mechanisms, and performance anxiety. The research demonstrated that athletes coping strategies often involve avoidance, such as denial, which resulted in short term relief but at cost to long term focus and stamina. Singh pressed the need for providing healthy emotional outlets and incorporating psychological training in sports.

Gurjar and Solanki (2023) investigated the sports anxiety among male and female athletics players of Madhya Pradesh. Results indicated that female athletes exhibited greater levels of cognitive anxiety and, in contrast, males experienced more bodily symptoms such as muscle tension. The study called for the creation of gender-specific anxiety regulation interventions.

Debnath and Sharma (2024) investigated by the effect of autogenic training—a self-relaxation skill—on young athletes. They found that regular practices noticeably decreased physiological anxiety symptoms, such as increased heart rate and shallow breaths. Participants also described that they were able to get a better focus and emotional control at competitions.

Chavan (2024) presented a qualitative study on anxiety and stress in Indian athletes, indicating that those with psychological unpreparedness consistently under perform during competitions. The research concluded that self-critique and outside pressure leads to even more stress, which results in a loss of focus and energy. Psychological counseling and stress-relieving techniques were proposed as regular training.

Significance of the Study

This research is very important in that it pertains to a fundamental, but commonly neglected aspect of sports performance--anxiety. Fast pitch softball In competitive sports it is not just physical preparation that determines success, but mental preparation as well with an emphasis on the control of anxiety. This review and synthesis of Indian as well as global studies contribute to our understanding of the influence of different types of anxiety (trait, state, cognitive, somatic) on athletes at various levels and from different sports. The results may help coaches, trainers, sport psychologists and educational institutions to design comprehensive training programmes involving psychological skills as a main part. Furthermore, due to growing recognition of mental health in Indian sport, this review provides culturally suitable perspectives and interventionist approaches appropriate for the specific stressors endured by Indian athletes including academic pressure, familial demand and an absence of psychological support. Secondly, the findings advance our understanding of the subgroups in need with respect to anxiety regulation, a theme pertaining to which research and practice have not lagged behind. Finally, such a review might also serve to increase athletic performance, lower psychological burnout and forge mental resilience – 3 factors very important for on-going sports exerting success and the general well-being of athletes.

Objectives of the Study

1. **To examine** the existing body of national and international literature on the impact of anxiety—cognitive, somatic, trait, and state on athletic performance across various sports disciplines.
2. **To identify** common psychological patterns, coping strategies, and intervention methods that influence the performance outcomes of athletes experiencing anxiety.

Hypotheses of the Study

- H₁:** Anxiety negatively influences athletic performance, with varying effects based on its type (trait/state; cognitive/somatic).
- H₂:** The presence of structured psychological interventions in the reviewed studies correlates with better athletic performance outcomes among athletes facing anxiety.

Methodology

A qualitative review methodology used to analyze scientific articles published from 2018 to 2025 is adopted in this paper on the relationship of anxiety and sport performance. Material The sources were gathered from Indian and foreign academic journals through databases such as Google Scholar, Shodhganga, PubMed etc. The investigator included studies that were relevant, peer-reviewed or focused on anxiety in a sports setting. A theme analysis approach was utilized to integrate commonalities, interventions and gaps across the literature.

Findings

A summary of patterns extracted from literature used in the review. The most important one is anxiety, in particular trait and cognitive anxiety, all of which have a negative impact on performance more so under competitive or high-stress conditions. Some of Indian research mentioned the high parental expectations academic burden and less psychological training which could elevate anxiety in athlete. Gender differences were also found, with female athletes reporting significantly greater levels of cognitive anxiety and males showing more physical (somatic) symptoms. Pranayama, autogenic training, mindfulness and counselling intervention strategies were successful in reducing anxiety and improving performance measures. Results also indicated athletes who did not feel emotionally prepared, regardless of physical preparation, struggled with confidence and decision-making when under pressure.

One of the key themes in both Indian, and across studies was that traditional SAI coaches oriented towards traditional sports did not have integrated psychological support with their training programs.

Conclusion

The review demonstrates that anxiety has important implications on sport performance and should be treated as seriously as physical training. Whether it is cognitive or somatic, anxiety can take an athlete out of their game by preventing them from focusing, having increased physical tension, and fearing failure. Although this has been widely recognized in international research, Indian studies are now starting to provide culturally situated evidence that is much needed for the design of effective mental training packages. A key finding of the review is that access to strategies such as mindfulness, breath control techniques and mental imagery can lead to meaningful enhancements in performance when integrated into training and competition. Calloused palms don't clench as tightly, so it turns out that anxiety isn't simply a mental affliction — it's seminal to performance. They suggest the necessity of a change in culture such that coaches, athletes and institutions consider more comprehensive athlete development (i.e., the integration of ensuring their mental readiness alongside their physical fitness).

Implications of the Study

The results of this review should be applied by sports policy makers, coaches, teachers and sport psychologists. First, sports organizations and colleges in India need to include sports psychology modules as part of their regular training schedule for athletes to identify, comprehend and control anxiety. Second, coaching certification programs should incorporate psychological first aid and anxiety-reduction tools. Third, national sports federations should invest resources in professional mental health advisors and counseling, particularly for adolescent athletes and university athletes. Finally, [review] urge upcoming longitudinal and experimental studies to examine long term effects of psychological interventions on sport success among culturally varied Indian contexts. The findings of this study may also motivate that multi-disciplinary scientific experts together psychologists, physiologists and coaches are involved in develop athletes who possesses not only physical strength but mental toughness as well.

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