



The Association Between Mental Toughness and Pre-Competition Anxiety in Female Football Players: A Pune City Study

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ABSTRACT

Background Women's participation in competitive sports has increased notably, bringing attention to the psychological challenges they face in high-performance situations. Female athletes experience unique pressures involving expectations, readiness, and emotional control. Studying psychological factors such as mental toughness and pre-competition anxiety is vital because they influence confidence, focus, composure, and overall performance. To examine the relationship between mental toughness and pre-competition anxiety in female footballers from Pune city. Sixty female footballers were selected using convenience sampling, and descriptive correlation was used to ascertain the correlation, if any, between their level of mental toughness and pre-competition anxiety. Data were collected using standard tools and techniques: the Mental Toughness Index was used to collect data on mental toughness, and the Sport Competition Anxiety Test (SCAT) questionnaire was used to collect data on pre-competition anxiety. The data were analysed using SPSS ver. 17. For inferential statistics, Pearson's correlation coefficient was computed. The mean and standard deviation of mental toughness were 40.92 and ± 7.22 , and those of pre-competition anxiety were 21.20 and ± 5.32 , yielding a value of $r = -0.603$. The correlation between the two measures was significant at the 0.05% level ($p < 0.00$). The negative correlation indicates that the greater the mental toughness, the lower the pre-competition anxiety among female footballers from Pune city, with the two measures being significantly and inversely correlated for this group.



Introduction

Mental toughness is crucial for athletic performance, particularly in competitive sports such as football, in which psychological resilience can significantly enhance performance. Defined as the ability to focus, maintain confidence, and control emotions under stress, mental toughness enables people to deal effectively with the demands of competition (Jones et al., 2007; Gucciardi et al., 2015). Handling psychological challenges, including pre-competition anxiety, is particularly important for female footballers because it can introduce distractions, impair decision making, and lower overall performance (Smith & Smoll, 2016). Therefore, the present study sought to examine the correlation, if any, between mental toughness and precompetition anxiety in a sample of female footballers from Pune City, an emerging centre for women's sports in India.

Pre-competition anxiety is common in athletes and is characterised by feelings of nervousness, apprehension, and physiological arousal before a competition (Martens et al., 1990). Female athletes are reported to experience greater pre-competition anxiety than their male counterparts because a variety of social and environmental factors influence female sporting experiences (Sharma et al., 2021). Mental toughness offers a framework for understanding how athletes can lower negative psychological stress by deploying coping strategies, regulating their emotions, and sustaining their focus (Crust & Clough, 2011). By examining this relationship in the context of women's football in Pune, the present study helps bridge the gap in localised research by seeking to correlate psychological traits and pre-competition stress.

Mental toughness and anxiety level are reported to show a negative correlation; in other words, athletes that are mentally tough experience lower levels of pre-competition anxiety (Birrer et al., 2012; Nicholls et al., 2014), which is particularly relevant to team sports such as football, in which the pressure to perform well as a team under high stakes demands strong psychological readiness (Thelwell & Greenlees, 2003). However, most studies so far have focused on male athletes or generalised athlete samples; the experiences of women footballers from emerging sports hubs in India remain a minority (Kumar & Rajan, 2023).

Pune has become a growing centre for sports in India, offering greater opportunities for female athletes to compete and develop professionally (Joshi, 2024), thereby adding a unique cultural and social dimension to the psychological experiences of female footballers, who must deal with performance pressure and meet societal expectations simultaneously. Investigating the correlation between mental toughness and pre-competition anxiety among this group, namely women footballers, will offer



useful insights to inform coaching practices, athlete support systems, and mental training tailored to specific needs of women in Indian football.

Materials and Methods

Descriptive correlation was used to study the relationship between mental toughness and pre-competition anxiety in female footballers from Pune city.

A total of 60 female footballers aged 18 years or older from Pune city were selected through purposive sampling, ensuring a diverse sample of individuals with varying levels of mental toughness and pre-competition anxiety. This study adhered to the prescribed ethical guidelines, and the confidentiality of the subjects was ensured.

Mental toughness was assessed using the Mental Toughness Index (MTI) developed by Gucciardi et al. (2015). The index is a validated tool that measures key components of mental toughness, namely self-belief, attentional control, emotional regulation, and perseverance, and serves as a reliable measure of an athlete's ability to remain confident, focused, and composed under the stress of competition. Pre-competition anxiety was assessed using the Sports Competition Anxiety Test (SCAT) developed by Martens et al. (1990). The test is widely used in sports psychology to assess anxiety experienced by athletes before a competition or tournament and helps identify the degree of worry, tension, and physiological symptoms related to situations involving competition. Higher test scores indicate greater anxiety. These features made both tests appropriate for the target population, namely women footballers playing tournament-level football.

Initially, the researchers contacted ten football clubs in Pune, of which only five allowed the researchers to proceed with the data collection. The data were collected through a questionnaire administered in person over two weeks. Before administering the questionnaire, the participants were briefed on the purpose of the study and the importance of their participation in it. The participants were instructed to read each statement carefully before responding. The responses were scored using a set of norms, and the data were analyzed using SPSS ver. 17. Both descriptive and inferential statistics were calculated to determine the relationship between mental toughness and pre-competition anxiety.

Results

The mean and standard deviation of mental toughness were 40.92 ($\pm$ 7.22), and those of pre-competition anxiety were 21.20 ($\pm$ 5.32) (Table 1). For inferential statistics, Pearson's correlation coefficient was computed, yielding a value of $r =$



–0.603 (Table 2). The results showed that this correlation was significant at the 0.05% level ($p < 0.00$).

Table No.1 : Descriptive statistics of mental toughness and pre-competition anxiety among women footballers ($n = 60$) from Pune city

Parameter	Mental toughness	Pre-competition anxiety
Mean	40.92	21.20
Std. error of mean	0.93	0.69
Median	40.50	22.00
Std. deviation	7.22	5.32

Table 2 : Descriptive correlation of mental toughness and pre-competition anxiety among women footballers ($n = 60$) from Pune city

Attribute	Test	Sports competition anxiety test	Mental toughness
Pre-competition anxiety	Pearson correlation	1	–.603**
	Sig. (2-tailed)		.000
Mental toughness	Pearson correlation	–.603**	1
	Sig. (2-tailed)	.000	

Discussion

Mental toughness and pre-competition anxiety among female footballers from Pune city were negatively correlated, with a Pearson correlation coefficient of -0.603 ($p < 0.05$). The mean mental toughness score was $40.92 (\pm 7.22)$, and the mean pre-competition anxiety score was $21.20 (\pm 5.32)$. These results indicate that female footballers with greater mental toughness tend to be less anxious before a tournament, a finding consistent with earlier research showing that mental toughness helps athletes cope better with competition stress and lowers their anxiety levels (Birrer et al., 2012; Nicholls et al., 2014). Mentally tough athletes can maintain focus, control their emotions, and remain confident under pressure—qualities that are particularly important for female athletes, who often face additional social and psychological challenges (Gucciardi et al., 2015; Sharma et al., 2021). By lowering pre-competition



anxiety, mental toughness contributes to better performance and psychological well-being of athletes.

Although the relationship is clearly significant, other factors, such as the type of sport and cultural influences, may moderate this correlation (Thelwell & Greenlees, 2003), and these aspects need to be explored in greater depth. Overall, the results of the present study highlight the value of developing mental toughness in female footballers to help them deal with competition pressure; that ability, in turn, will lead them to success.

Conclusion

Women footballers from Pune city who exhibited greater mental toughness consistently experienced lower anxiety levels before major competitions and tournaments, indicating that mental toughness plays a vital role in managing pre-competition stress and enhancing performance.

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