Anxiety and mental toughness in football players: a study of the Kerala Premier League and women's Kerala Premier League

Ansiedad y fortaleza mental en jugadores de fútbol: un estudio de la Premier League de Kerala y la Premier League femenina de Kerala

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Abstract

Background: Competitive anxiety and mental toughness are critical psychological factors influencing athletic performance. However, research on these traits among professional footballers in regional leagues like the Kerala Premier League (KPL) and Women's Kerala Premier League (WKPL) remains limited. Understanding gender differences and the role of competitive experience can inform targeted mental training strategies.
Objective: This study examined gender differences in sports competitive anxiety and mental toughness among professional footballers in the KPL and WKPL. It also explored the relationship between competitive experience, anxiety, and mental toughness.
Methodology: A cross-sectional, quantitative design was employed. Using purposive sampling, 64 professional footballers (32 males from KPL and 32 females from WKPL) aged 17–24 years with at least one year of competitive experience were selected. Standardized psychological assessments measured sports competitive anxiety and mental toughness. Independent samples t-tests analysed gender differences, while Pearson correlation assessed associations between experience, anxiety, and mental toughness. Statistical significance was set at $p < .001$.
Results: Female players exhibited higher competitive anxiety, while male players demonstrated greater mental toughness. Competitive experience correlated with lower anxiety and higher mental toughness. A significant inverse relationship was observed between anxiety and mental toughness.
Conclusion: The findings highlight gender disparities in psychological resilience, underscoring the role of experience in reducing anxiety and enhancing mental toughness. Structured, gender-specific psychological interventions are essential for optimizing football performance in regional leagues.

Keywords

Athlete resilience, competitive anxiety, football psychology, gender differences, Kerala Premier League, mental toughness.

Resumen

Antecedentes: La ansiedad competitiva y la fortaleza mental son factores psicológicos críticos que influyen en el rendimiento deportivo. Sin embargo, la investigación sobre estos rasgos entre los futbolistas profesionales de ligas regionales como la Kerala Premier League (KPL) y la Women's Kerala Premier League (WKPL) sigue siendo limitada. Comprender las diferencias de género y el papel de la experiencia competitiva puede informar estrategias de entrenamiento mental específicas. Objetivo: Este estudio examinó las diferencias de género en la ansiedad competitiva deportiva y la fortaleza mental entre los futbolistas profesionales de la KPL y la WKPL. También exploró la relación entre la experiencia competitiva, la ansiedad y la fortaleza mental. Metodología: Se empleó un diseño cuantitativo transversal. Utilizando un muestreo intencional, se seleccionaron 64 futbolistas profesionales (32 hombres de la KPL y 32 mujeres de la WKPL) de entre 17 y 24 años con al menos un año de experiencia competitiva. Las evaluaciones psicológicas estandarizadas midieron la ansiedad competitiva deportiva y la fortaleza mental. Las pruebas t de muestras independientes analizaron las diferencias de género, mientras que la correlación de Pearson evaluó las asociaciones entre la experiencia, la ansiedad y la fortaleza mental. La significación estadística se estableció en $p < 0,001$.
Resultados: Las jugadoras mostraron una mayor ansiedad competitiva, mientras que los jugadores masculinos demostraron una mayor fortaleza mental. La experiencia competitiva se correlacionó con una menor ansiedad y una mayor fortaleza mental. Se observó una relación inversa significativa entre la ansiedad y la fortaleza mental.
Conclusión: Los hallazgos ponen de manifiesto las disparidades de género en la resiliencia psicológica, subrayando el papel de la experiencia en la reducción de la ansiedad y la mejora de la fortaleza mental. Las intervenciones psicológicas estructuradas y específicas de género son esenciales para optimizar el rendimiento del fútbol en las ligas regionales.

Palabras clave

Resiliencia del atleta, ansiedad competitiva, psicología del fútbol, diferencias de género, Kerala Premier League, fortaleza mental.

Introduction

Football is one of the most popular and widespread sports in the world, played globally by amateurs and professionals. Football has been widely accepted by huge population from different countries including developing country like India. Indian football has witnessed significant growth in recent years, leading to greater participation at various competitive levels. This progress is evident in the increasing prominence of regional leagues such as Kerala premier league (KPL) and women's Kerala premier league (WKPL), which provides a structured platform professional footballer to compete at a high level. Football is highly intensified game which requires both physical and mental preparation due to its explosive nature. To fulfil these demands, athletes need to undergo extensive Physical training focuses on enhancing athletes' functional capacities, exploiting athletic potential and maintaining functional ability. Along with giving significant importance to physical components, they should also give emphasis on psychological components that is crucial for better performance outcomes. High level of psychological stability facilitates optimum results.

Among the various psychological factors influencing athletic performance, anxiety stands out as a significant barrier to success when left unmanaged. It is an emotional state marked by excessive fear and apprehension (Öhman, 2007). In a competitive setting, this manifests as competitive anxiety (CA), a prevalent challenge among athletes that affects both performance and overall well-being. CA occurs before or during competitions and impacts both the cognitive and somatic domains. Cognitive anxiety involves negative thoughts, fear of failure, and self-doubt, while somatic anxiety presents as physical symptoms such as increased heart rate, muscle tension, and restlessness (Muñoz et al., 2017; Pons et al., 2018). In football, where quick decision-making, endurance, and strategic execution are essential, elevated anxiety can hinder focus, disrupt coordination, and impair overall effectiveness on the field. The Multidimensional Anxiety Theory (MAT) provides a well-established framework for understanding its effects, identifying three key components: cognitive anxiety, somatic anxiety, and self-confidence (Carmen Martínez-Monteagudo et al., 2012). While excessive cognitive and somatic anxiety can diminish performance, self-confidence acts as a stabilizing factor, helping athletes maintain composure and control under pressure (Filho & Rettig, 2019). Although mild anxiety can enhance concentration and readiness, excessive levels often lead to mental distractions, poor decision-making, and physical rigidity, all of which negatively impact performance (Hartley & Phelps, 2012). Research has linked high competitive anxiety to reduced self-confidence and suboptimal performance outcomes (Muñoz et al., 2017). Given the intensity and unpredictability of football, addressing competitive anxiety through structured psychological strategies is essential for building mental resilience, optimizing performance, and ensuring long-term success in the sport.

Mental toughness is another complex psychological quality that involves endurance, persistence, and motivation. It allows people to manage poor performance and stressful situation without letting them harm their overall performance (Soundara Pandian et al., 2023). Mental toughness (MT) is a vital psychological trait that enables athletes to perform consistently under pressure and overcome adversity. Core components of MT include perseverance and resilience, which help athletes recover from setbacks and persist through difficulties; self-efficacy, or confidence in one's ability to achieve goals; and self-control, which allows players to regulate emotions and remain focused under adverse situations (Liew et al., 2019). In football, where players must navigate intense physical challenges, tactical demands, and psychological stressors, mental toughness plays a crucial role in maintaining motivation, concentration, and composure throughout the season (Karim et al., 2019). Motivation and work ethic drive athletes to continually improve, while focus and attention enable them to block out distractions and execute game strategies effectively. Several theoretical models attempt to explain and measure mental toughness, including the Goal-Expectancy-Self-Control (GES) Model, which highlights the role of challenging goals, self-efficacy, and self-control in helping athletes manage stress, sustain effort, and achieve peak performance through strategic planning and perseverance (Bédard-Thom et al., 2024; Bédard Thom et al., 2021). Given the competitive and unpredictable nature of football, developing mental toughness is essential for ensuring consistency, resilience, and long-term success on the field.

Despite extensive research on anxiety and mental toughness in sports, limited attention has been given to football players in regional leagues such as the Kerala Premier League (KPL) and Women's Kerala Premier League (WKPL). The psychological dynamics at this competitive level, particularly the interplay

between competitive anxiety and mental toughness among male and female players, remain underexplored. This study addresses this gap by examining gender differences in these psychological traits and assessing the influence of playing experience. Specifically, it seeks to determine how competitive anxiety and mental toughness vary between male and female footballers in the KPL and WKPL and to explore the relationship between experience, competitive anxiety, and mental toughness. By providing insights into these factors, the study aims to contribute to the development of targeted mental training strategies, enhancing psychological resilience and performance among football players at the regional level.

Method

Materials & Methods

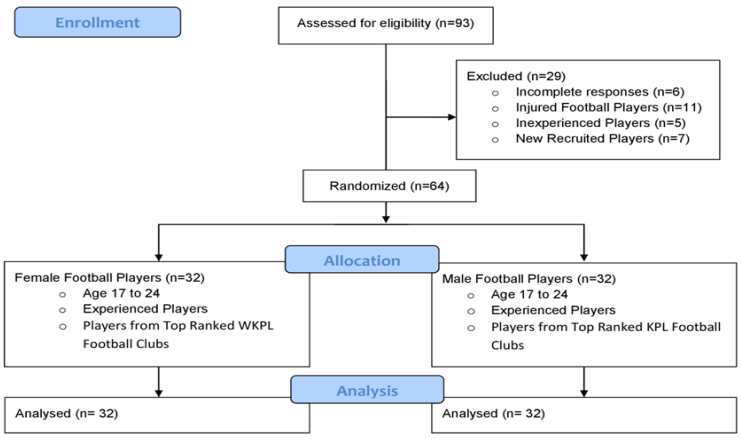
Study design

This study employed a cross-sectional, quantitative research design to examine the relationship between sports competitive anxiety (SCA) and mental toughness (MT) among professional football players. This structured research design allowed for a detailed cross-sectional analysis of psychological traits among professional football players, offering insights into the impact of competitive anxiety and mental toughness on performance in high-level football competitions.

Participants

A purposive sampling method was used to select professional football players aged between (17 to 24) with a minimum of 1 year of competitive experience. The research included 64 participants, among which 32 male players competed in the Kerala Premier League (KPL), and 32 female athletes participated in the Women's Kerala Premier League (W-KPL). A total of 93 participants from the top-performing teams in the Kerala Premier League (KPL) and Women's Kerala Premier League (W-KPL) were invited to participate in the study, of which 64 completed the questionnaire. The final sample size was determined based on a G*Power analysis to ensure adequate statistical power for detecting meaningful effects (Kang, 2021). The response rate for this study was calculated as 68.82%, according to (Alsnih & Stopher, 2004) indicating a high level of participant engagement and data completeness. The selection was based on the following criteria: (1) active participation in the Kerala Premier League (KPL) or Women's Kerala Premier League (W-KPL), (2) part of the teams that have the most tournament qualification and number of appearances and (3) availability for psychological assessment. Consequently, individuals newly recruited to professional teams, those with recent injuries, and those not having 1-year competitive experience were excluded. All athletes provided informed consent before the data collection in accordance with ethical guidelines.

Figure. 1. Consort flow chart of Allocation of Participants Procedure



Data collection was conducted over a two-week period during the Kerala Premier League (KPL) and Women's Kerala Premier League (W-KPL) seasons. Participants were invited to complete an online questionnaire. The study employed two validated psychometric instruments: the Sports Competition

Anxiety Test (SCAT) (Martens, 2014). and the Mental Toughness Questionnaire (MTQ) (Elroy Pinto, 2015). The questionnaire was distributed electronically via Google Forms and sent to participants through email. Participants were given a maximum of 48 hours to complete the assessment after receiving the link. The estimated completion time for the questionnaire was approximately 15–20 minutes. Before completing the assessment, participants provided demographic data, including age, gender, competitive experience, history of injuries, and past achievements. The SCAT was completed first, followed by the MTQ. The survey instrument was translated and adapted to ensure linguistic and cultural appropriateness. A forward-backward translation process was conducted by bilingual experts, followed by a pilot study with 10 football players to assess clarity and comprehension. Participants were informed that participation was voluntary and that they could withdraw at any time without any consequences. The research team remained available throughout the data collection period for technical support and clarifications, ensuring the integrity and accuracy of responses.

Instruments

The Sports Competition Anxiety Test (SCAT) was developed by (Martens, 1977). It is a widely used questionnaire designed to assess competitive trait anxiety in athletes, specifically measuring their anxiety levels during competition or performance situations. The SCAT comprises fifteen statements, to which athletes respond by indicating whether they "rarely," "sometimes," or "often" experience the described feelings in a competitive setting. Ten of these statements are directly related to anxiety symptoms, while the remaining five are included to reduce internal response-set bias and prevent inaccurate or false responses. The SCAT scoring is as follows: for most items (2, 3, 5, 8, 9, 12, 14, and 15), "rarely" is scored as 1, "sometimes" as 2, and "often" as 3. However, for items 6 and 11, the scoring is reversed, with "often" scoring 1 and "rarely" scoring 3. The spurious items (1, 4, 7, 10, and 13) are not scored. The total SCAT score is then categorised to determine anxiety levels: a score of less than 17 indicates low anxiety, 17 to 24 indicates average anxiety, and a score of more than 24 indicates high anxiety. The SCAT has been previously utilised to assess competitive anxiety in both male and female football players (M. B. Sultanov, 2024; Trandafirescu et al., 2024). Martens et al. (1990) conducted a thorough validation of the SCAT, providing strong evidence of its high internal consistency, with KR-20 values between .95 and .97. They also reported a high test-retest reliability, with an average reliability score of .77.

Mental toughness (MT) was assessed using the Mental Toughness Questionnaire (MTQ), developed by Dr. Alan Goldberg (Pinto, 2015). This questionnaire consists of 30 items designed to evaluate mental toughness across five critical areas: rebound ability, pressure handling, concentration, confidence, and motivation. Respondents indicate their agreement with each statement by selecting "True" or "False," with each correct answer contributing one point. The total score ranges from 0 to 30, with higher scores denoting greater overall mental toughness. Specifically, scores of 26–30 indicate exceptional mental toughness, scores of 23– 25 reflect average to moderate skill, and scores of 22 or below suggest the need for more focused mental training.

Demographic Questionnaire

The researcher collected comprehensive demographic information from the participants, including personal details such as names and email addresses. The demographic questionnaire also gathered data on participants' ages, genders, and years of professional football experience, as well as current or past sport-related injuries and notable achievements. This information was crucial for contextualising the study's findings and ensuring a thorough understanding of the participants' backgrounds.

Statistical Analysis

Statistical analyses were performed using IBM SPSS Statistics Version 27 (IBM Corp., Armonk, NY). Data were first screened for accuracy, missing values, and outliers. Descriptive statistics (i.e., means and standard deviations) were computed for all variables. The normality of the data distribution was assessed using the Shapiro-Wilk test (González-Estrada et al., 2022), which confirmed that the data was normally distributed. Based on these diagnostics, parametric tests were deemed appropriate. An independent-sample t-test was conducted to examine group differences in mental toughness scores. The t-test compared the means between groups. Additionally, correlation analysis was conducted to explore the relationships between experience, sports competitive anxiety (SCA), and mental toughness (MT). The statistical tools utilised underscored the significant connections among these psychological factors within the context of professional football.

Results

The present study examined gender differences in sports competitive anxiety and mental toughness, the influence of playing experience on these psychological factors, and the relationship between anxiety and mental toughness among football players in the Kerala Premier League (KPL) and Women's Kerala Premier League (WKPL). The findings provide key insights into how male and female athletes differ in their psychological responses to competition and how experience shapes their ability to handle pressure and maintain resilience.

Gender Differences in Sports Competitive Anxiety

An independent samples t-test was performed to examine the differences in sports competitive anxiety between male and female football players. The statistical analysis revealed that female players had significantly higher levels of anxiety compared to their male counterparts. Specifically, the mean anxiety score for female players ($M = 41.20$, $SD = 3.06$) was notably greater than that of male players ($M = 31.27$, $SD = 3.05$). This difference was found to be highly significant, $t = -10.24$, $p < .001$, indicating a substantial gap in anxiety levels between the two groups. These results suggest that female football players tend to experience heightened anxiety during competitive matches when compared to male players. The statistical significance of this finding underscores the consistency of this difference across the sample, confirming that the observed variation is unlikely to be due to chance.

Gender Differences in Mental Toughness

The analysis revealed a significant difference in mental toughness between male and female football players. The statistical results indicated that male players exhibited substantially higher levels of mental toughness than their female counterparts. Specifically, the mean mental toughness score for male players ($M = 86.07$, $SD = 2.47$) was considerably greater than that of female players ($M = 68.73$, $SD = 2.68$). This difference was found to be highly significant, $t = 21.54$, $p < .001$, suggesting a notable variation in psychological resilience between genders. The statistical significance of this result confirms that male players consistently demonstrate stronger mental toughness across the sample. This suggests that, on average, male football players are better equipped to withstand the pressures of competition and maintain a high level of mental stability during performance. The substantial disparity in scores indicates that the variation in mental toughness between male and female athletes is consistent and unlikely to have occurred by chance.

Table 1. Descriptive Statistics and Independent Samples t-Test for Gender Differences

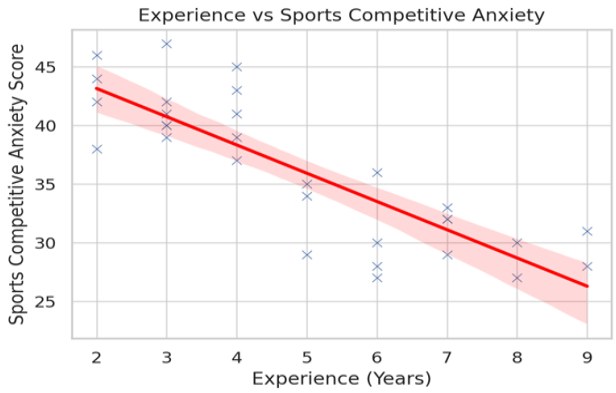
Mental Toughness Variable	Sports Competitive Anxiety		P value	Effect size
	PRE	POST		
	Average DT	Average DT		
Sports Competitive Anxiety	2.56 ± 1.04	2.22 ± 1.00	.269	.32
Mental Toughness	2.67 ± 1.50	2.28 ± 1.27	.130	.27
Variable	7.22* ± 2.46	6.17* ± 2.55	.037	.40

Note: $p < .001$ (statistically significant difference).

Correlation between Experience and Sports Competitive Anxiety

The analysis examined the relationship between playing experience and sports competitive anxiety among football players. A Pearson correlation test revealed a strong negative correlation between these two variables ($r = -0.83$, $p < .001$), indicating that as players gain more experience in competitive football, their levels of anxiety tend to decrease significantly. This negative correlation suggests that individuals with extensive exposure to competitive environments generally report lower levels of pre-match nervousness compared to those with less experience. The statistical significance of this correlation confirms the consistency of this trend across the sample, demonstrating that players with more years of experience in the sport are less likely to experience heightened anxiety before or during competition. This result underscores a clear inverse relationship, meaning that an increase in experience is strongly associated with a reduction in anxiety levels. The strength of this correlation suggests that this pattern is not due to random variation but is a reliable indicator of how playing experience relates to anxiety in competitive football settings.

Figure 2. Scatter plot illustrating the negative correlation between playing experience and sports competitive anxiety.



Correlation between Experience and Mental Toughness

The statistical analysis revealed a strong positive correlation between playing experience and mental toughness ($r = 0.82$, $p < .001$), indicating that as players gain more experience, their mental resilience tends to increase significantly. This positive relationship suggests that individuals who have spent more years competing in football generally exhibit higher levels of psychological strength compared to those with less experience. The statistical significance of this correlation confirms the consistency of this trend across the sample, demonstrating that experienced players are more likely to maintain composure and emotional stability in high-pressure situations. The strength of this correlation further suggests that this pattern is not due to random variation but represents a reliable association between competitive exposure and mental toughness. The results indicate that greater involvement in football is linked to a progressive enhancement in psychological endurance, allowing players to better handle the challenges and demands of the sport.

Figure 3. Scatter plot showing the positive correlation between playing experience and Mental Toughness

Relationship between Sports Competitive Anxiety and Mental Toughness

The analysis revealed a strong negative correlation between sports competitive anxiety and mental toughness ($r = -0.86$, $p < .001$), indicating an inverse relationship between these two psychological factors. This correlation suggests that as anxiety levels increase, mental toughness tends to decrease significantly. The statistical significance of this correlation confirms that the association between anxiety and mental toughness is consistent across the sample. The strength of the negative correlation indicates that this relationship is not due to random variation but represents a clear and measurable trend. These findings highlight that anxiety and mental toughness are closely linked, with higher levels of one factor being strongly associated with lower levels of the other.

Figure 4. Scatter plot depicting the negative correlation between sports competitive anxiety and mental toughness

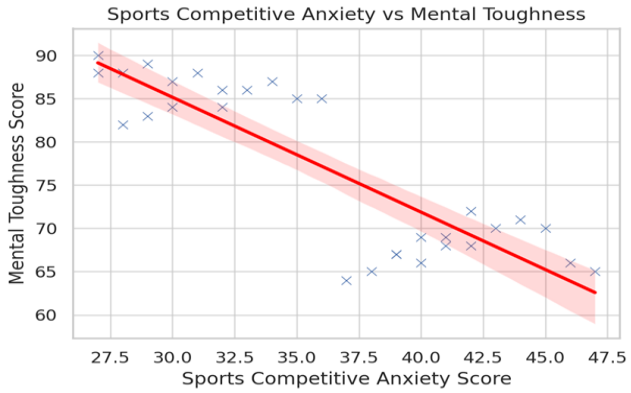


Table 2. Pearson Correlation Results

Variables	r-value	p-value	Interpretation
Experience & Sports Competitive Anxiety	-0.83	< .001***	Strong Negative Correlation
Experience & Mental Toughness	0.82	< .001***	Strong Positive Correlation
Sports Competitive Anxiety & Mental Toughness	-0.86	< .001***	Strong Negative Correlation

Note: p < .001 (highly significant correlation).

Discussion

Competitive Anxiety and Gender Differences

The current study revealed that female football players experience higher levels of competitive anxiety than their male counterparts. Several studies have consistently shown that female athletes experience higher levels of competitive anxiety than male athletes, and various psychological and social factors in the existing literature have been identified as potential causes of increased competitive anxiety among female football players. Competitive anxiety manifests differently in male and female athletes, with female football players experiencing higher levels due to a combination of psychological, social, and environmental influences. Female athletes frequently experience increased anxiety about how they are perceived, particularly in terms of performance adequacy and composure (Lorimer, 2006). This anxiety is exacerbated by their high levels of trait anxiety, which is a predisposition to stress in a variety of competitive situations (Trandafirescu et al., 2024). Female athletes also report higher levels of somatic and cognitive anxiety, which can manifest as physical symptoms such as increased heart rate and muscle tension, as well as intrusive thoughts about failure (Bosque et al., 2024; Verdaguer et al., 2017). The motivational climate in sports settings influences anxiety levels, with female athletes frequently experiencing a more ego-oriented environment that prioritizes outperforming others over personal development, exacerbating cognitive anxiety and insecurity (Morales-Sánchez et al., 2022). Parental pressure is another factor, as female athletes are more likely to receive directive behaviors and expectations from their parents, which increases pre-competitive anxiety (Bois et al., 2009). Furthermore, societal expectations and pressures related to social desirability exacerbate stress as female athletes negotiate the conflict between competitive performance and cultural norms (M. B. Sultanov, 2024). These intersecting factors shape female athletes' psychological landscapes, necessitating targeted interventions to promote resilience and reduce anxiety in competitive sports settings.

Mental Toughness and Gender Differences

Our findings showcased that male football players have higher mental toughness than female football players. This finding is consistent with previous research, which indicates that mental toughness differs significantly between male and female athletes, with male athletes exhibiting greater resilience and lower anxiety levels. This disparity is shaped by a variety of societal, cultural, and structural factors. Hypermasculine ideals dominate sports culture, reinforcing the expectation that male athletes must demonstrate toughness, which fosters a psychological advantage (Clark et al., 2023). Female athletes, on the other hand, frequently face negative comparisons to their male counterparts, as well as harassment, which undermines their self-confidence and mental resilience (Pedersen et al., 2019). Training

and support systems are also important, as male athletes frequently receive more tailored programs designed to improve mental toughness, whereas female athletes have fewer structured opportunities to develop these characteristics (Wheatley et al., 2023). The risk of injury, particularly among female athletes, complicates mental toughness development, as physical setbacks can have a significant psychological impact (Brophy et al., 2010). This divide is influenced by experience and performance levels, with male athletes typically being exposed to more high-pressure competition, honing their ability to manage stress and adversity (Guillén & Santana, 2018; Kristjánsdóttir et al., 2019; Wheatley et al., 2023). Addressing these disparities through gender-responsive training programs, stronger support systems, and cultural changes in sports environments can help female athletes develop greater mental toughness.

Playing Experience and Competitive Anxiety

Analysis of our study indicated that there is an inverse relationship between experience and competitive anxiety in football players. This finding is in line with previous research, which has found a negative relationship between playing experience and competitive anxiety. Competitive experience has a significant impact on the levels of competitive anxiety among football players, primarily by influencing self-confidence, coping strategies, and physiological responses to stress. Athletes with more experience have higher self-confidence, which acts as a buffer against cognitive anxiety, allowing them to remain calm under pressure (Morales-Sánchez et al., 2022; Muñoz et al., 2017). Exposure to high-level competition promotes a task-oriented mindset that emphasizes personal growth and mastery, thereby reducing anxiety (Morales-Sánchez et al., 2022). Less experienced players, on the other hand, are more likely to create an ego-centric environment, which increases insecurity and performance-related stress (Morales-Sánchez et al., 2022). Experienced athletes refine their coping strategies over time, allowing them to manage anxiety through self-control and social support (Ivaskevych et al., 2020). Neurobiological and psychophysiological adaptations also contribute to lower anxiety levels, as experienced athletes exhibit more stable stress responses, as evidenced by regulated EEG rhythms and reduced cortisol fluctuations prior to competition (M. Sultanov & İsmailova, 2019). Furthermore, gradual development of personality traits such as lower neuroticism and higher conscientiousness improves resilience, reducing the likelihood of experiencing heightened competitive anxiety (Lim & Kee, 2023). These factors together highlight the importance of experience in developing emotional stability and psychological preparedness in high-stakes athletic environments.

Playing Experience and Mental Toughness

Our findings suggested a positive link between competitive experience and mental toughness in football players. This finding aligns with current research, which shows that mental toughness increases with playing experience. Competitive experience is critical in developing mental toughness in football players by instilling resilience, self-esteem, and effective coping mechanisms. Athletes with more experience have greater resilience, which allows them to view challenges as opportunities rather than threats, a cognitive shift that reinforces mental toughness (Maurin & Martinent, 2023). Prolonged exposure to competitive environments boosts self-esteem and motivation, while external support systems and accumulated success help to build psychological fortitude (Wheatley et al., 2023). Experienced players refine their strategies for dealing with pressure, mastering psychological skills such as attention control, emotional regulation, and self-confidence, all of which are necessary for mental toughness (Benítez-Sillero et al., 2021). Furthermore, there is a strong correlation between conscientiousness and mental toughness, with experienced athletes relying on discipline and psychological adaptability to maintain peak performance (Rodrigues et al., 2024). The role of a supportive environment strengthens this relationship even more, as seasoned players benefit from structured coaching that promotes independence and resourcefulness (Cook et al., 2014). Experienced athletes develop a resilient mindset through repeated exposure to high-pressure situations, reinforcing their ability to overcome adversity and perform at peak levels in demanding conditions.

Relationship between Competitive Anxiety and Mental Toughness

We found a negative relationship between football players' mental toughness and competitive anxiety levels in this study. Previous research has discussed that increasing mental toughness reduces competitive anxiety. A number of psychological and behavioral factors contribute to the negative relationship between competitive anxiety and mental toughness in football players. Mental toughness serves as an effective barrier against stress and anxiety, allowing athletes to view competition as a challenge rather

than a threat (Jun Ming Benjamin & Chee Keng John, 2021; Nicholls et al., 2011). Self-efficacy, self-control, and optimism are all important components of mental toughness that aid in stress and anxiety management (Olefir, 2018). Athletes with high mental toughness use effective coping strategies, such as problem-focused coping, mental imagery, and thought control, to keep their cool and focus under pressure (Kurimay et al., 2017; Nicholls et al., 2011). Lower mental toughness is associated with avoidance-based coping and emotional instability, which increases anxiety (Nicholls et al., 2011). Psychological flexibility and learned resourcefulness act as a mediator of this relationship since more adaptable and self-regulated players feel less anxious in demanding situations (Schaefer et al., 2016). In addition, high-standard training, competition exposure, and psychological strategies such as mindfulness and self-talk strengthen mental toughness and decrease anxiety (Crust & Azadi, 2010). Mental toughness enhances the performance of football players by enhancing resilience, refining coping behaviors, and improving psychological performance strategies.

Practical Implications

A holistic, athlete-centered approach is essential for building mental resilience and managing performance anxiety in football. Training programs should integrate both technical skills and structured psychological support to help athletes develop mental fortitude, extending beyond physical preparation. Cognitive-behavioural techniques, stress management exercises, and mindfulness practices can help athletes stay composed, reframe stress as a challenge, and maintain focus under pressure. Mentorship programs foster a supportive sporting environment where veteran athletes guide younger players by sharing their experiences in overcoming setbacks and handling competitive stress. Knowing others have faced similar challenges can instill confidence and enhance coping abilities. Sports psychologists and coaches should incorporate self-talk, imagery, and emotional regulation into daily routines, making these mental strategies as natural as physical training. Encouraging open discussions about mental health within teams can reduce stigma and promote seeking help as a sign of strength. Regular psychological assessments can identify athletes struggling with mental challenges, enabling early intervention and personalized support. By embedding mental resilience strategies into coaching and player development programs, football can cultivate athletes who are not only physically strong but also emotionally equipped to handle adversity.

Limitations and Future Perspectives

This study highlighted the complex relationship between competitive experience, mental toughness, and anxiety. However, certain limitations should be acknowledged. The cross-sectional design limits our ability to show causal relationships, and using self-reported measures may introduce response biases. Future studies should incorporate a longitudinal research design to analyze psychological changes over time and examine how mental toughness and anxiety evolve. More demographic variables can be added, including playing position, competition levels, etc., to give a more nuanced understanding of these psychological changes. Expanding the sample size to include athletes from various competitive levels, cultural backgrounds, and geographic locations may provide a more comprehensive understanding of these psychological processes. The inclusion of physiological indicators such as cortisol levels and heart rate variability as determinants of these psychological changes also would make assessments more objective. Additional research into customized psychological therapy specific to various personality types and coping mechanisms could be used to enhance mental resilience in competitive sport.

Conclusions

This study sheds light on the relationship between competitive anxiety, mental toughness, and playing experience in football. The findings support the notion that female athletes have higher competitive anxiety, which is impacted by psychological, social, and environmental factors. In contrast, male athletes have better mental toughness, which is shaped by cultural and structural dynamics in sports. The importance of exposure to high-pressure situations in fostering psychological resilience is further supported by the correlation between more playing experience and improved mental toughness and less competitive anxiety. Competitive anxiety and mental toughness are inversely correlated, which emphasizes how important psychological preparation is for competitive sports. This research contributes to the broader discussion of athlete development by furthering our understanding of these psychological principles and emphasizing the importance of structured psychological training and support for football

players' performance and well-being. This research highlights the need for gender-specific therapies to improve the psychological resilience and overall performance of football players, ensuring tailored support that addresses the unique challenges faced by male and female athletes.

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