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ANALYSIS OF ANXIETY LEVEL OF ADOLESCENT FOOTBALL PLAYERS ACROSS DIFFERENT GEOGRAPHICAL REGIONS OF WEST BENGAL

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Abstract

The present study aimed to analyse the anxiety levels among adolescent football players across different geographical regions of West Bengal, namely plains, sea-level, coastal, and hilly areas. A total of 400 male football players aged between 18 and 22 years were selected using a stratified random sampling technique, with equal representation from each region. The Beck Anxiety Inventory (BAI), developed by Aaron T. Beck et al. (1988), was used to measure anxiety levels.

The collected data were analysed using descriptive statistics and inferential statistics, including One-Way ANOVA and Tukey HSD post-hoc test. The results revealed significant differences in anxiety levels among the four groups. Players from the plains region showed the highest level of anxiety, followed by sea-level players, while coastal and hilly region players exhibited comparatively lower anxiety levels. The ANOVA results indicated a statistically significant difference ($F = 160.93$, $p < 0.05$), and a large effect size suggested that geographical factors strongly influence anxiety levels.

The findings of the study highlight the importance of environmental and socio-cultural factors in shaping psychological characteristics among adolescent athletes. It is concluded that anxiety varies significantly across regions, and appropriate psychological interventions are necessary to enhance performance and well-being.

Keywords: Anxiety, Adolescent Football Players, Geographical Regions, West Bengal, Sports Psychology, STAI, Performance

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1. INTRODUCTION

Football is one of the most popular sports in India, particularly in the state of West Bengal, where it holds deep cultural, social, and historical significance. The region has a rich footballing tradition shaped by renowned clubs such as Mohun Bagan Athletic Club, East Bengal Club, and Mohammedan Sporting Club. Football in this region functions not only as a sport but also as a cultural institution that fosters social identity and community cohesion.

Football performance depends not only on physical and technical abilities but also on psychological factors. Variables such as motivation, self-confidence, anxiety, resilience, and team cohesion significantly influence decision-making, emotional regulation, and performance outcomes (Weinberg & Gould, 2019; Williams et al., 2019). However, these psychological traits are not uniformly distributed among players and are influenced by environmental, socio-cultural, and economic conditions (Hagger & Chatzisarantis, 2016).

The state of West Bengal is characterized by diverse geographical regions, including hilly terrains, sea-level areas, coastal regions, and plains. These regions differ in terms of climate, infrastructure, and socio-economic conditions, which influence the psychological development of adolescent football players. For example, players from hilly regions may develop resilience due to environmental challenges, while players from plains may have better access to facilities. Similarly, coastal and sea-level areas present unique environmental conditions affecting adaptability and stress levels (Chakraborty, 2021; Das & Bose, 2022; Sarkar, 2019).

Among psychological variables, anxiety plays a crucial role in determining athletic performance. Anxiety is characterized by feelings of tension, nervousness, and apprehension and can manifest in cognitive and somatic forms (Martens et al., 1990). While moderate anxiety can enhance performance, excessive anxiety may impair concentration, coordination, and decision-making. The inverted-U hypothesis explains that optimal performance occurs at moderate levels of arousal (Yerkes & Dodson, 1908).

Adolescence is a critical developmental stage marked by rapid physical, emotional, and psychological changes. During this period, individuals are highly sensitive to external pressures such as competition, expectations, and social influences. Participation in football contributes to

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personality development, but it also exposes players to stress and anxiety, which can affect both performance and mental well-being (Spielberger, 1983).

Geographical variation plays an important role in shaping psychological traits. Differences in environmental conditions, socio-economic status, and cultural background influence how players perceive and respond to competitive situations. In West Bengal, players from different geographical regions may experience varying levels of exposure, support, and pressure, leading to differences in anxiety levels.

Despite the strong football culture of the state, there is a lack of region-specific research focusing on psychological variables among adolescent football players. Therefore, this study aims to analyse the anxiety levels of adolescent football players across different geographical regions, hilly, sea-level, coastal, and plains of West Bengal.

1.2 Objectives of the study

1. To assess the level of anxiety among adolescent football players
2. To compare anxiety levels across different geographical regions (hilly, sea-level, coastal, and plains) of West Bengal
3. To examine the influence of geographical conditions on anxiety levels
4. To analyse the relationship between anxiety and sports performance
5. To provide suggestions for psychological training and intervention.

1.3 Hypothesis of the study

The study is based on the following null hypothesis:

- **H_{01}:** There is no significant difference in anxiety level among adolescent football players from different geographical regions (hilly, sea-level, coastal, and plains) of West Bengal.

2.REVIEW OF LITERATURE

Research in sports psychology has consistently highlighted the importance of anxiety as a crucial factor influencing athletic performance. Rainer Martens **et al. (1990)** conceptualized competitive anxiety as a multidimensional construct consisting of cognitive and somatic components. Their study emphasized that these components significantly affect athletes' concentration, coordination, and overall performance. The development of the Sports Competition Anxiety Test (SCAT) provided a standardized method to measure anxiety in sports settings.

Charles D. Spielberger **(1983)** introduced the distinction between state and trait anxiety, explaining that state anxiety is situational and temporary, whereas trait anxiety is a stable personality characteristic. This distinction is particularly relevant in sports contexts, as athletes may experience varying levels of anxiety depending on competitive situations.

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Further studies have indicated that anxiety has both facilitative and debilitative effects on performance. According to Daniel Gould **et al. (2002),** moderate levels of anxiety can enhance performance by increasing alertness and motivation, whereas excessive anxiety can impair decision-making, reduce coordination, and negatively affect performance outcomes.

Research focusing on adolescent athletes suggests that this group is especially vulnerable to psychological stress. Adolescence is a critical developmental stage marked by physical, emotional, and social changes, which can increase susceptibility to anxiety (Smith, 2003). Academic pressure, parental expectations, and competitive demands further contribute to heightened anxiety levels among young athletes.

Environmental and geographical factors also play a significant role in shaping psychological characteristics. Studies have shown that differences in climate, terrain, and availability of sports facilities influence athletes' exposure, training opportunities, and psychological responses (Verma & Singh, 2015). Athletes from challenging environments often develop resilience and adaptability, while those from developed regions may experience greater competitive pressure.

In the Indian context, limited research has examined the relationship between geographical variation and psychological factors in sports. Existing studies suggest that socio-economic conditions and environmental differences influence athletes' mental states and performance levels (Sharma, 2018). However, there is a lack of focused research on adolescent football players.

Particularly in West Bengal, which consists of diverse geographical regions such as hilly areas, sea-level zones, coastal belts, and plains, there is insufficient research exploring how these regional differences affect anxiety levels among football players. Most studies have not addressed region-specific psychological variations.

Therefore, the present study aims to fill this gap by analysing the anxiety levels of adolescent football players across different geographical regions of West Bengal.

3. METHODOLOGY

3.1 Research Design

The present study adopted a descriptive and comparative research design to analyse selected psychological variables among adolescent football players from different geographical regions of West Bengal. The study focused on examining variations in anxiety along with other psychological traits such as personality, motivation, and stress, and how these were influenced by geographical and environmental factors.

3.2 Participants

A total of **400 male adolescent football players**, aged between **18 and 22 years,** were selected from various colleges and universities across different geographical regions of West Bengal. The

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participants were actively involved in competitive football and had represented their respective institutions in inter-college, inter-university, district, or state-level tournaments. The sample was equally distributed across four geographical regions:

- Plains (n = 100)
- Sea-level (n = 100)
- Coastal (n = 100)
- Hilly regions (n = 100)

This distribution ensured balanced representation of players from diverse environmental and socio-cultural backgrounds.

3.3 Sampling Technique

A **stratified random sampling technique** was employed to select the participants. The population was divided into strata based on geographical regions (plains, sea-level, coastal, and hill), and participants were randomly selected from each stratum. This approach ensured equal representation and minimized sampling bias.

3.4 Data Source and Collection Procedure

The purpose of the study was clearly explained to all participants before data collection to avoid ambiguity. Participants willingly cooperated and remained available throughout the data collection process.

Data were collected through direct interaction with the players during training sessions and inter-college competitions. Standardized questionnaires were distributed through college sports departments, and necessary instructions were provided to ensure accurate responses. Ethical considerations such as voluntary participation, confidentiality, and anonymity were strictly maintained.

3.5 Instruments

To assess anxiety levels, the **Beck Anxiety Inventory (BAI)** developed by Aaron T. Beck et al. (1988) was used. It is a self-report scale consisting of **21 items** designed to measure the severity of anxiety.

The BAI has high reliability (Cronbach's $\alpha = 0.92$; test–retest reliability = 0.75) and good validity, showing moderate correlation with the Hamilton Anxiety Rating Scale and mild correlation with the Hamilton Depression Rating Scale (Beck et al., 1988).

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3.6 Statistical Analysis

The collected data were analysed using appropriate statistical techniques. Descriptive and inferential statistics were applied to examine differences among groups. The **Z-test and Analysis of Variance (ANOVA)** statistical tools were used. These methods were used to determine the significance of differences in psychological variables, particularly anxiety, among football players from different geographical regions.

3.7 Ethical Considerations

Participants were informed about the purpose of the study, and their participation was voluntary. Confidentiality and anonymity of responses were maintained throughout the research process to ensure the integrity of the data.

4. RESULTS AND ANALYSIS

4.1 Analysis of Anxiety Scores among Different Geographical Regions

The present study aimed to analyse the level of anxiety among adolescent football players across four different geographical regions of West Bengal, namely Plains (PA), Sea Level (SL), Coastal Area (CA), and Hilly Area (HA).

Table 4.1 Mean and Standard Deviation of Anxiety Scores

Group	Mean	SD
Plains (PA)	34.01	7.86
Sea Level (SL)	29.36	5.91
Coastal Area (CA)	19.64	5.40
Hilly Area (HA)	18.51	3.92

Interpretation

The table reveals that

- Players from **Plains (PA)** exhibit the **highest anxiety level**
- Followed by **Sea Level (SL)** players
- **Coastal (CA)** and **Hilly (HA)** players show comparatively **lower anxiety levels**

4.2 One-Way ANOVA Analysis

To determine whether the differences in anxiety levels among the four groups are statistically significant, a One-Way ANOVA was conducted.

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Table 4.2 ANOVA Summary for Anxiety Scores

Source	DF	SS	MS	F	p-value
Between Groups	3	17046.18	5682.06	160.93	< 0.05
Within Groups	396	13982.06	35.31		
Total	399	31028.24			

Interpretation

- The calculated **F-value = 160.93**
- The **p-value is much less than 0.05**

Therefore, the null hypothesis (H_{01}) is **rejected.**

This indicates that there is a **statistically significant difference in anxiety levels** among adolescent football players from different geographical regions.

4.3 Effect Size

The effect size ($\eta^2 \approx 0.55$) indicates that 55**% of the total variance in anxiety scores is explained by geographical differences**

- This is considered a **very large effect size**
- This clearly shows that the **geographical region has a strong influence on anxiety levels**

4.4 Post Hoc Analysis (Tukey HSD Test)

Table 4.3 Pairwise Comparison of Anxiety Scores

Comparison	Mean Difference
PA vs SL	Significant
PA vs CA	Significant
PA vs HA	Significant
SL vs CA	Significant
SL vs HA	Significant
CA vs HA	Not Significant

Interpretation

- Significant differences exist between:
  - Plains vs all other groups
  - Sea Level vs Coastal & Hilly
- No significant difference between:

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- Coastal and Hilly regions

This indicates that **high-anxiety regions (PA, SL)** differ clearly from **low-anxiety regions (CA, HA)**

4.5 Key Findings

1. Highest anxiety observed in the **Plains region**
2. Moderate anxiety in the **Sea Level region**
3. Lowest anxiety in the **Coastal and Hilly regions**
4. Strong statistical evidence supports regional influence on anxiety

5. DISCUSSION AND CONCLUSION

5.1 Discussion

The findings of the present study clearly indicate that there exists a significant variation in anxiety levels among adolescent football players belonging to different geographical regions of West Bengal. The statistical analysis revealed that players from the plains region exhibited the highest level of anxiety, followed by those from the sea-level region, whereas players from coastal and hilly regions demonstrated comparatively lower levels of anxiety. This variation suggests that geographical and environmental conditions play a crucial role in shaping the psychological responses of adolescent athletes.

The higher anxiety level observed among players from the plains region may be attributed to increased competition, greater performance expectations, and higher exposure to organized sports structures. These players often face intense pressure to perform, which may elevate their cognitive and somatic anxiety levels. Similarly, players from sea-level regions also showed relatively high anxiety, which could be influenced by environmental instability such as climatic uncertainties, socio-economic challenges, and lifestyle-related stressors. These factors may contribute to heightened emotional tension and nervousness among athletes.

In contrast, players from coastal and hilly regions reported lower anxiety levels, which may be associated with their adaptation to challenging environmental conditions. Living in such environments may foster resilience, emotional stability, and better coping mechanisms, enabling these players to manage stress more effectively. Additionally, relatively lower exposure to high-level competition and reduced external pressure might contribute to their lower anxiety levels.

The results of the study are consistent with the theoretical framework proposed by Martens et al. (1990), who identified anxiety as a multidimensional construct influenced by both situational and environmental factors. Furthermore, the distinction between state and trait anxiety introduced by Spielberger (1983) supports the idea that environmental conditions can significantly affect

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athletes' psychological states. The findings also align with the Inverted-U Hypothesis (Yerkes & Dodson, 1908), which suggests that while moderate levels of anxiety can enhance performance, excessive anxiety may lead to a decline in performance efficiency.

Moreover, the large effect size observed in the study indicates that geographical background accounts for a substantial proportion of variance in anxiety levels among adolescent football players. This highlights the importance of considering environmental and socio-cultural contexts while analysing psychological variables in sports. The findings emphasize that anxiety is not merely an individual trait but is significantly influenced by external conditions and the lived experiences of athletes.

Overall, the discussion underscores that geographical diversity within West Bengal plays a significant role in influencing the psychological characteristics of adolescent football players, particularly anxiety. Therefore, it becomes essential for coaches, trainers, and sports psychologists to design region-specific psychological interventions and training programmes to help athletes manage anxiety effectively and enhance their performance.

5.2 Conclusion

The present study was conducted to analyse the anxiety levels among adolescent football players across different geographical regions of West Bengal. Based on the statistical analysis and interpretation of data, it can be concluded that anxiety levels vary significantly among players belonging to different regions. The findings revealed that players from the plains and sea-level regions exhibit comparatively higher levels of anxiety, whereas players from coastal and hilly regions demonstrate lower levels of anxiety.

The results clearly indicate that the geographical environment plays a vital role in influencing the psychological state of adolescent football players. Environmental conditions, socio-economic factors, level of competition, and exposure to sports infrastructure contribute significantly to shaping anxiety levels. The large effect size further confirms that a substantial proportion of variation in anxiety is explained by geographical differences.

The study also establishes that anxiety is an important psychological factor affecting sports performance, especially during adolescence, which is a sensitive developmental stage. Therefore, proper psychological preparation and intervention are necessary to help players maintain optimal anxiety levels for better performance.

Finally, the null hypothesis stating that there is no significant difference in anxiety levels among adolescent football players from different geographical regions of West Bengal is rejected. The study highlights the need for region-specific psychological training programmes and emphasizes the importance of integrating mental conditioning into sports training to enhance both performance and the overall well-being of athletes.

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Recommendations

Based on the findings of the present study, several important recommendations can be made to improve the psychological well-being and performance of adolescent football players. Since the study revealed that anxiety levels vary significantly across different geographical regions, it is essential to design region-specific psychological training programmes. Coaches and physical education teachers should incorporate mental training techniques such as relaxation exercises, breathing control, visualization, and stress management strategies into regular training sessions. These techniques can help players regulate their anxiety and maintain optimal performance levels. Special attention should be given to players from plains and sea-level regions, as they demonstrated comparatively higher levels of anxiety. Regular counselling sessions and the involvement of sports psychologists can play a crucial role in helping these athletes cope with competitive pressure and emotional stress. Moreover, creating a supportive and positive training environment can reduce unnecessary performance pressure and enhance confidence among players.

In addition, sports authorities and educational institutions should focus on improving infrastructure and providing equal opportunities across all regions. Awareness programmes on mental health in sports should also be organized to educate players, coaches, and parents about the importance of psychological well-being. Integrating psychological skill training with physical and technical training will contribute to the holistic development of adolescent football players.

Future Aspects

The present study opens several avenues for future research in the field of sports psychology. Future studies may include female football players to provide a more comprehensive understanding of anxiety across genders. Comparative studies involving players from different states or countries can also be conducted to examine the influence of broader cultural and environmental factors on anxiety.

Longitudinal studies may be undertaken to observe changes in anxiety levels over time and their impact on performance. Researchers can also explore the relationship between anxiety and other psychological variables such as motivation, self-confidence, and personality traits in greater depth. Furthermore, future research may investigate the effectiveness of specific psychological interventions or training programmes in reducing anxiety among athletes.

In addition, qualitative research methods such as interviews and case studies can be used to gain deeper insights into the lived experiences of players from different geographical regions. Expanding the sample size and including different age groups and levels of competition will further strengthen the generalizability of findings. Thus, future research can build upon the present

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study to develop more effective strategies for enhancing both the mental health and performance of athletes.

REFERENCES

- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, 56(6), 893–897.
- Chakraborty, S. (2021). Regional diversity and sports culture in West Bengal. Journal of Social Sciences, 12(3), 112–120.
- Das, P., & Bose, R. (2022). Climate and athlete performance: A regional perspective. Indian Journal of Sports Studies, 8(1), 67–75.
- Gould, D., Greenleaf, C., & Krane, V. (2002). Arousal-anxiety and sport behavior. In T. Horn (Ed.), Advances in sport psychology (2nd ed., pp. 207–241). Human Kinetics.
- Hagger, M. S., & Chatzisarantis, N. L. D. (2016). The trans-contextual model of motivation. Oxford University Press.
- Martens, R., Vealey, R. S., & Burton, D. (1990). Competitive anxiety in sport. Human Kinetics.
- Sarkar, A. (2019). Socio-cultural influences on sports participation in Eastern India. International Review of Sociology of Sport, 14(2), 89–101.
- Sharma, R. (2018). Influence of socio-economic factors on sports performance. International Journal of Physical Education, 5(2), 45–50.
- Spielberger, C. D. (1983). Manual for the State-Trait Anxiety Inventory (STAI). Consulting Psychologists Press.
- Verma, S., & Singh, A. (2015). Environmental influence on psychological variables in sports. Indian Journal of Sports Science, 10(1), 23–28.
- Weinberg, R. S., & Gould, D. (2019). Foundations of sport and exercise psychology (7th ed.). Human Kinetics.
- Williams, A. M., Ford, P. R., & Drust, B. (2019). Talent identification and development in soccer since the millennium. Journal of Sports Sciences, 37(11), 1199–1210.
- Yerkes, R. M., & Dodson, J. D. (1908). The relation of the strength of stimulus to the rapidity of habit formation. Journal of Comparative Neurology and Psychology, 18(5), 459–482.