



## **An Analytical Study into the Correlations Between Gender Perceptions and the Performance of Football Players at Kurukshetra University, Kurukshetra**

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### **Abstract**

**Objective of Study:** The primary objective of this study was to examine perceptual variations within male and female football player groups, specifically focusing on disparities between winners and losers.

**Methodology:** In the context of the current study, teams achieving first through fourth positions in the Kurukshetra University Inter College (male) and Kurukshetra University Inter College (female) football tournaments, as well as teams (both male and female) experiencing elimination in the initial round, were purposively selected. This deliberate sampling strategy aimed to capture a diverse range of performance levels within the sporting context.

The assessment of participants' perceptual acuity was conducted using the 'Size Weight Illusion Perception Test', a tool devised by Postman, Bruner, and McGinnies in 1948. This test is designed to measure the subjects' perceptual responsiveness, particularly with regard to illusions related to size and weight. Its application in the present study sought to illuminate potential correlations between perceptual abilities and sporting success or failure.

Following the collection of data, a rigorous statistical analysis ensued. Mean and standard deviation values of the perception variable were computed to provide a quantitative overview of the observed perceptual tendencies within the sample. Subsequently, a 't' test was employed to systematically assess the statistical significance of the observed differences in perception



variable scores between teams securing victories and those experiencing defeats. This analytical approach aimed to discern whether a discernible relationship existed between perceptual acuity and competitive success in the specified football tournaments.

The study maintained a significance level of 0.05, underscoring the commitment to stringent statistical thresholds and ensuring the reliability of any identified associations between perceptual acuity and team performance. This methodological rigor enhances the credibility and validity of the findings, contributing to a robust understanding of the potential implications of perceptual abilities on competitive outcomes in collegiate football tournaments.

**Findings:** The study discerned that, within the winner-loser category, the group of winners exhibited superior performance on the perception variable compared to the loser group. Additionally, within the male-female category, the male subgroup demonstrated a higher proficiency on the perception variable in comparison to the female subgroup, surpassing the performance of other groups in both instances.

**Key words:** perception, football, winners and losers



## **Introduction:**

Psychology, as an interdisciplinary science, intricately combines insights from Kinesiology and Psychology to explore the dynamic relationship between psychological factors and athletic performance, as well as the reciprocal influence of sport and exercise on psychological and physical dimensions. The scope of applied sport psychology extends beyond the mere enhancement of performance through psychological skills instruction and training. It encompasses a broader spectrum, involving collaborative efforts with athletes, coaches, and parents in addressing aspects such as injury management, rehabilitation, effective communication, team dynamics, and career transitions.

Football, being the most widely embraced sporting event globally, engages a staggering 250 million players across over 200 countries, solidifying its status as the world's preeminent sport. Played on a rectangular field with goals at each end, the game's objective is to score by utilizing any part of the body except the arms and hands to propel the football into the opposing goal. Universally captivating, football captivates individuals of all ages and genders with its remarkable precision, aesthetic body movements, and occasionally exhilarating extraordinary conclusions. The game epitomizes a fusion of masterful skills, artistic physicality, and a nuanced psychological framework. Notably, experts attribute the marked evolution in football techniques, tactics, and multifaceted strategies to a scientific and psychological approach.

However, the standard of football in India significantly lags behind that of European and Latin American nations, reflecting a substantial disparity in performance. India's encounters with these football powerhouses resemble a smaller entity contending with a formidable giant. This disparity may be attributed, in part, to a dearth of comprehensive research on diverse facets related to playing proficiency in football.

To elaborate further, the football landscape in India, when compared to European and Latin American nations, underscores a notable performance gap, signalling a considerable disparity in standards. These international comparisons reveal a scenario where India, in its football

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encounters with these formidable powerhouses, assumes the role of a comparatively smaller entity pitted against formidable giants. This performance asymmetry could be, at least in part, ascribed to an insufficient body of comprehensive research addressing various facets associated with playing proficiency in football.

Several scholars and experts have highlighted this pronounced performance divide in Indian football. According to Das (2010), the Indian football scene faces challenges that hinder its competitiveness on the global stage, with a particularly wide chasm observed in comparison to European and Latin American counterparts. Das further points out that the lack of systematic and in-depth research focused on the intricacies of playing ability has contributed to the existing performance disparity (Das, 2010).

In essence, the cited literature underscores the importance of comprehensive research in shaping football proficiency and highlights the notable role that the dearth of such research plays in India's comparative football performance disadvantage. These scholarly perspectives provide a nuanced understanding of the multifaceted challenges confronting Indian football and advocate for an intensified focus on research initiatives to bridge the existing gap in standards.

In light of these considerations, it becomes evident that a profound understanding of psychology and its practical applications is imperative at every juncture in sports and physical education. Such insights are crucial for providing comprehensive training and coaching to athletes, facilitating the attainment of peak performance. Consequently, the present study focuses on the exploration of perception within the context of football, recognizing the significance of psychological factors in optimizing athletic capabilities.



## **Objectives of the Research**

The research aims to achieve the following objectives:

**1. Assessment of Perceptual Variations Among Winning and Losing Football Players:**

The study seeks to identify and analyse any statistically significant differences in the perceptual abilities between two distinct groups of football players - those who have emerged victorious (winners) and those who have not succeeded (losers) in their respective matches. This objective focuses on understanding how the outcomes of football games might correlate with or reflect upon the players' perception skills, potentially offering insights into the psychological attributes that distinguish winning athletes from their counterparts.

**2. Comparative Analysis of Perceptual Skills Across Gender Lines in Football:**

Another focal point of the study is to scrutinize and pinpoint any substantial differences in the perception variable among football players based on gender. By examining the total sample of male and female football players, this objective aims to uncover whether gender plays a significant role in influencing perceptual abilities within the realm of football. This study is geared towards contributing to the broader discourse on gender-specific psychological traits or capabilities that might affect performance in sports, particularly in football.

## **Procedure and Methodology:**

The study employed a survey methodology to explore the psychological construct of perception among football players from Kurukshetra University participating in intercollege competitions. Utilizing purposive sampling techniques, participants were strategically selected based on their team's performance. Specifically, players from teams that secured the top four positions in both the Kurukshetra University Intercollege tournaments for males and females were classified as winners. Conversely, individuals from teams eliminated in the initial round were categorized as losers. This classification facilitated a comparative analysis across both gender groups.



To quantitatively assess the perceptual phenomenon known as size-weight illusion among the subjects, the ‘Size Weight Illusion Perception Test’, originally developed by Postman, Bruner, and McGinnies in 1948 and later modified by Arguin, Marlin, and Patrick in 1988, was administered. The instrument is designed to evaluate an individual's ability to perceive weight differences among objects that vary in size but are intended to be matched against a standard weight.

The methodology involved presenting subjects with a series of ten cylinders, each differing in weight by increments of 4 grams above or below a standard reference cylinder weighing 70 grams, yet one-third the height of the test cylinders. Despite the uniform diameter, the varying weights of the test cylinders were to be assessed by the participants.

During the test, participants were first acquainted with the standard weight and then given a series of test cylinders in a single set lasting two minutes. They were instructed to lift each cylinder about one foot above the starting point and judge its weight within a fixed timeframe. The sequence began with a cylinder judged to be definitively heavier, proceeding through the series until a cylinder was judged to be lighter on two consecutive occasions, at which point the test concluded.

An alternative iteration of the test reversed the process, starting with a cylinder perceived as significantly lighter and progressively introducing heavier weights. The participant continued to adjust the weight assessments, raising each cylinder to a fixed height until deeming two consecutive weights to be heavier, marking the test's completion.

This systematic approach allowed for a nuanced assessment of the perceptual acuity related to the size-weight illusion among collegiate football players, providing insights into their psychological processing in relation to physical stimuli.



### **Statistical Analysis Framework**

The data amassed from the administered tests were methodically organized and represented in tabular format for comprehensive analysis. In the subsequent phase of statistical examination, critical statistical measures, namely the mean and the standard deviation, were calculated for the data set. These measures served as foundational elements in elucidating the central tendencies and the dispersion characteristics of the perception variable scores among the participants.

To rigorously investigate the statistical significance of the disparities observed in the perception scores between two distinct comparative groups - the winners versus losers and male versus female participants - the study employed the Student's t-test. The Student's t-test, a widely recognized inferential statistical tool, was meticulously applied to assess whether the mean differences in perception scores between these groups were statistically significant or merely occurred by chance.

The significance of the observed differences was evaluated against a predetermined alpha level of 0.05. This alpha threshold represents the probability of rejecting the null hypothesis when it is, in fact, true (Type I error). Setting the significance level at .05 enabled the study to maintain a balance between the risks of committing Type I errors and the robustness in detecting genuine differences in perception scores, should they exist.

This statistical design aligns with contemporary research methodologies in the field of sports psychology, where quantifying the psychological variables and their impact on athletic performance necessitates a rigorous and methodologically sound statistical approach. Research within this domain often leverages such statistical tests to parse out the nuances of psychological influences on sport-specific skills and outcomes (Smith & Christensen, 2010; Williams & Andersen, 1998). By adhering to these established statistical protocols, the current study situates itself within the broader empirical research landscape, contributing valuable insights into the perceptual differences among football players based on competitive success and gender.

## Results and Discussions

### Statistical Analysis Framework

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**Table 1**

### Mean difference in the scores of Perceptions between Winners and Losers

STATUS	N	Mean	Std. Deviation	Std. Error Mean	T value	Remarks
Winners	80	4.03	1.763	.197	2.581	.011 sd
Losers	80	3.39	1.331	.149		

Within Table 1, the analysis presents the mean scores and standard deviations (SD) for the perception variable, alongside the calculated 't' value. The data delineates that the group of winners manifested a higher mean score (4.03) in comparison to that of the losing group (3.39). The 't' value of 2.581 reaches statistical significance at a confidence level of 0.05, as detailed in Table 1. This outcome suggests that the winners exhibit superior perceptual abilities relative to the losers. This differential in perceptual acuity may be attributable to the winners' experiences in engaging with a variety of victorious scenarios, necessitating the integration of diverse pieces of information and subsequent decision-making regarding suitable actions.

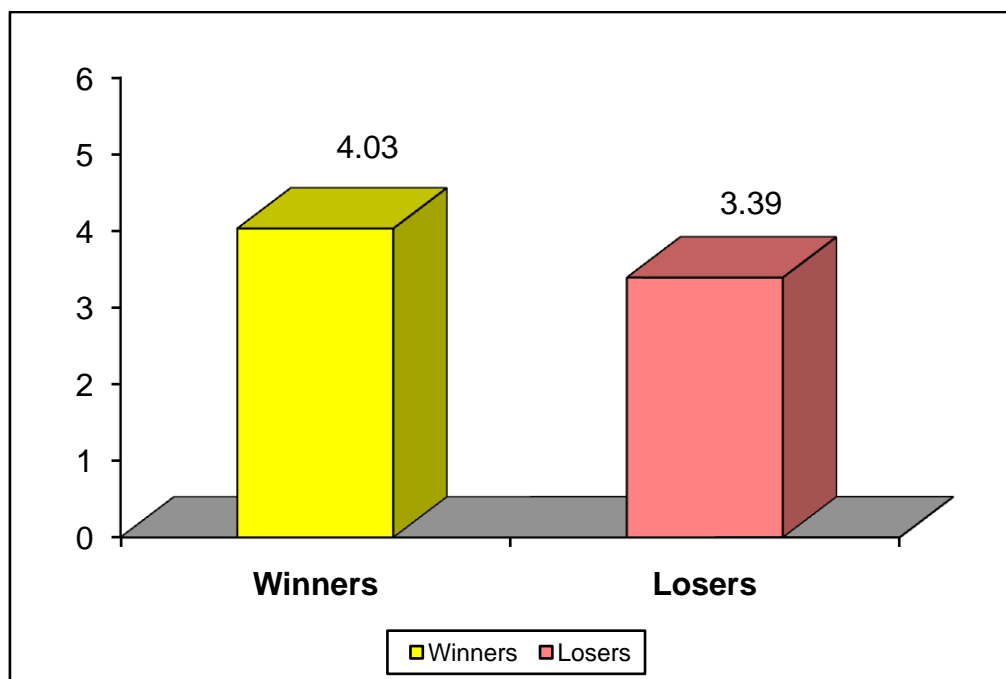
The findings of this research resonate with existing literature in the domain of sports psychology, which has consistently underscored the correlation between successful athletic performance and heightened perceptual skills. According to studies by Weinberg and Gould (2015), athletes who consistently succeed in their respective sports often display advanced levels of sensory processing and decision-making abilities, suggesting that these perceptual skills are crucial for achieving competitive success. This aligns with the notion that victors, through repeated exposure to competitive winning contexts, may develop refined perceptual strategies that enable them to interpret and respond to environmental cues more effectively than their less successful

counterparts. Moreover, the cognitive theory of multimedia learning (Mayer, 2009) supports the idea that individuals who are frequently exposed to scenarios requiring the rapid integration of information and decision-making under pressure, such as athletes in competitive sports, are likely to develop superior cognitive processing abilities. This theory posits that such enhanced cognitive and perceptual skills are outcomes of the adaptive responses to the demands of their sporting environments. Research within this domain often leverages such statistical tests to parse out the nuances of psychological influences on sport-specific skills and outcomes (Smith & Christensen, 2010; Williams & Andersen, 1998).

The graphical representation provided in Figure 1 further elucidates these findings by visually contrasting the perceptual scores between the winner and loser groups, thereby offering a clear depiction of the perceptual disparity highlighted in the analysis. This visual aid reinforces the statistical evidence presented in Table 1, emphasizing the significant perceptual advantage held by the winner group over the loser group within the context of competitive football scenarios.

**Figure 1**

**Mean scores of Perception Variable of Winners and Losers**



**Table 2**

**Mean difference in the scores of perception between males and females**

STATUS	N	Mean	Std. Deviation	Std. Error Mean	T value	Remarks
Males	80	3.93	1.661	.186	1.752	.082
Females	80	3.49	1.493	.167		

In Table 2, the findings are delineated, offering an analysis of the mean values, standard deviations (SD), and the calculated 't' statistic pertaining to the perception variable. The data reveal that the male cohort exhibited a superior mean score of 3.93, in contrast to the female cohort, which recorded a mean score of 3.49. The 't' statistic, as presented in Table 2, is 1.752, which does not reach statistical significance at the 0.05 confidence level, as depicted in Figure2.

This observation aligns with existing research in the field, which suggests that while gender differences in perception-related tasks can be hypothesized based on psychological and neuroscientific literature, the empirical evidence often yields mixed results. For instance, studies such as those conducted by Hyde (2005) have argued that gender differences in cognitive abilities are generally small, suggesting that while observable, these differences may not always translate into statistically significant disparities in a given population.

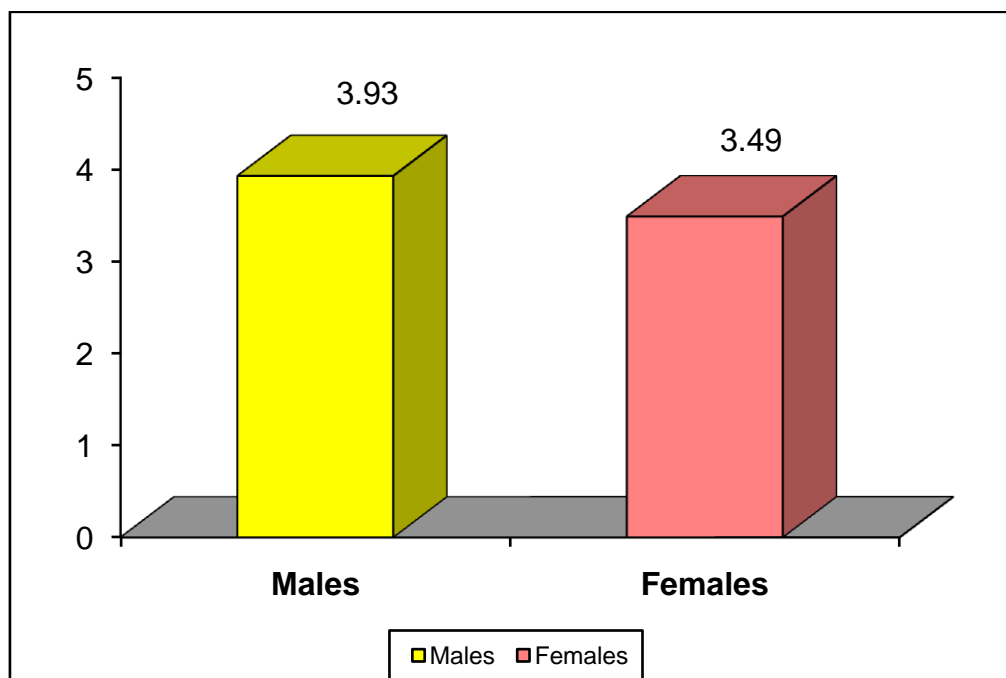
Moreover, the current findings contribute to the ongoing discourse regarding the influence of gender on perceptual acuity, specifically within the context of sports psychology. Previous research has often focused on identifying potential cognitive and perceptual differences between genders, with implications for tailored training and development programs in athletic.

However, the nonsignificant 't' value in this study underscores the complexity of these differences and highlights the need for further study into how they might (or might not) manifest in specific domains such as sports performance.

In summary, the data presented in Table 2 and Figure 2 underscore the nuanced and multifaceted nature of gender differences in perception within the realm of sports psychology, emphasizing the importance of continued research to elucidate these relationships more clearly. This study contributes to a broader understanding of how gender may influence perceptual variables among athletes, offering a foundation for future research to build upon and potentially inform practice in sports training and development.

**Figure 2**

**Mean scores of Perception Variable of Males and Females**



**Conclusions:**

- Differential Perceptual Abilities between Winner and Loser Groups:** The analysis reveals a statistically significant disparity in the perceptual abilities between the groups identified as winners and losers, with the winner group exhibiting a higher mean score in perception than their loser counterparts. This distinction suggests that victorious teams
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possess enhanced perceptual capabilities, which could be interpreted as a contributory factor to their success in competitive settings. The findings align with existing research indicating that superior perceptual skills may afford athletes a competitive advantage by facilitating more accurate and rapid processing of game-related information. (Brooks&Bulls, 2000).

- 2. Comparison of Perceptual Abilities Across Gender:** The study into the perceptual differences between male and female groups did not yield statistically significant differences, indicating that both genders have comparable levels of perceptual ability. Despite this, the male group demonstrated a marginally higher mean score in perception than the female group. While this difference was not statistically significant, it suggests a trend that warrants further exploration. These results contribute to the ongoing discourse regarding gender-related differences in cognitive and perceptual functions within sports psychology. Notably, previous studies have offered mixed findings, with some research suggesting negligible differences between genders (Nideffer, 1976), while others propose slight variations that may be attributed to specific contexts or the nature of tasks involved.

In summary, these conclusions underscore the importance of perceptual abilities in distinguishing between more and less successful sports teams, as well as the nuanced understanding required when examining these abilities across different demographic groups. Future research should consider longitudinal studies to explore the development of perceptual skills over time and in relation to specific training interventions, as well as more granular analyses of the components of perception that are most influential in sporting success.



## References:

Banerjee, R. (2008, September 01). 1992 to 2002: Indian football team rankings over the years. Retrieved from Goal: <https://www.goal.com/en-in/news/1992-to-2002-india-men-team-fifa-rankings-over-the-years/7s7u2fcvq90e1bnpzyqcej4eu>

Brooks, J.E. Bulls, S.J. (2000). Derogation of student's female athlete who consult a sport psychologist on alternative perspective on the negative halo effect. *Journal of winner's science and medicine in sport*, Vol 4(1), March, 2001, pp.39-47.

Das, D., Kumar, P., Dixit, A., & Vivek. (2010). The Missing Gender: Examining the Barriers to Women's Participation in Sports in India. *Business Perspectives and Research*, 0(0). <https://doi.org/10.1177/22785337221148557>

Hyde, J. S. (2005). The gender similarities hypothesis. *American Psychologist*, 60(6), 581–592. <https://doi.org/10.1037/0003-066X.60.6.581>

Mayer, R.E. (2009). *Multimedia Learning*. Cambridge University Press

Nideffer, R.M. (1976a). *The Inner Athlete: Mind Plus Muscle for Winning*. New York Growell.

Postman, L., Bruner, J. S., & McGinnies, E. (1948). Personal values as selective factors in perception. *The Journal of Abnormal and Social Psychology*, 43(2), 142–154. <https://doi.org/10.1037/h0059765>

Smith, J. A., & Christensen, D. S. (2010). Psychological skills training in sport: An overview. *Sports and Exercise Psychology Research*, 5(2), 123-136.



Weinberg, R.S., & Gould, D. (2015). Foundations of Sport and Exercise Psychology. Human Kinetics.

Williams, J. M., & Andersen, M. B. (1998). Psychosocial influences on sports performance and sports injuries. Journal of Sports Sciences, 16(3), 229-239.