P-ISSN: 2394-1685
E-ISSN: 2394-1693
Impact Factor (RJIF): 5.93
IJPESH 2025; 12(5): 551-554

https://www.kheljournal.com
Received: 25-08-2025
Accepted: 26-09-2025

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Comparative study of kinesthetic perception of male and female badminton player

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DOI: https://www.doi.org/10.22271/kheljournal.2025.v12.i5h.4032

Abstract
The aim of the study was to compare the kinesthetic perception of male and female badminton players. Thirty male and female badminton players were selected as a subject. Age of the subjects ranged from 18 to 25 years. All of them were participating in the regular activity classes in accordance with the requirements of the inter- college competition of Panjab University, Chandigarh. Kinesthetic perception was considered as the parameter of this study and this is measured by kinesthetic obstacles test (Johnson, Barry L. & Nelson, Jackson k, 1988). The scores of the subjects on the kinesthetic obstacle test were used as the criterion measure for the study. In order to analyse, the data, t-ratio was used to compare the means of different groups. The level of significance was set at .05. The result of the data indicated that there was no significant difference between male and female badminton players.

Keywords: Kinesthetic perception, badminton, player

Introduction
Sports psychology plays a critical role in optimizing athletic performance through diverse interventions aimed at managing stress, enhancing motivation, regulating anxiety, strengthening mental resilience, and addressing other psychological determinants. Beyond performance enhancement, it significantly contributes to areas such as injury rehabilitation, team cohesion, burnout prevention, career transitions, and the resolution of psychological challenges faced by athletes. These focal points underscore the depth of research and academic advancements within the field, which continue to enhance the understanding of the psychological complexities underlying athletic success and overall well-being (Gardner & Moore, 2006) [2].

Kamlesh and Sangral (1981) [4] emphasized that games and sports have consistently been integral to the human educationn system throughout history. Physical activities, including exercise, have played a crucial role in human survival and development over the ages. In ancient times, the formidable forces of nature necessitated physical strength and fitness as essential components of human existence.

To excel as an athlete, individuals must cultivate a range of essential attributes, including perceptual abilities, stability, speed, strength, flexibility, endurance, and technical skills (such as personal skill, rhythm, and object manipulation). A critical aspect of athletic performance is the ability to perceive and understand muscle activity and positioning during movement. This awareness, referred to as kinesthetic sense, is widely recognized as vital for the effective execution of well-learned motor skills. The development of kinesthetic awareness is crucial for both male and female players, as it significantly contributes to proficiency across various motor skill domains.

Kinesthetic sense provides individuals with an intrinsic awareness of their body parts or the body as a whole in space, independent of auditory or visual input. This sense encompasses the perception of muscular movement, effort, and joint angles, which are particularly pronounced in skilled performers. The specialized sensory receptors located within muscles and joints that facilitate this awareness are referred to as proprioceptors (Fox, L. Edward).

Kinesthetic perception, also referred to as proprioception, is a fundamental sensory ability that

enables individuals to perceive the position, movement, and orientation of their body. This sensory system plays a vital role in everyday activities, facilitating balance and movement adaptation during actions such as walking or running, particularly in response to varying terrains. Proprioception also aids in spatial awareness, allowing individuals to navigate crowded environments by estimating distances and avoiding obstacles. Additionally, it is essential for executing fine motor tasks, such as typing, playing musical instruments, or tying shoelaces. By providing continuous feedback, kinesthetic perception ensures precise adjustments and movements without reliance on visual input.

Badminton is a team game and also single player game. In badminton, physical fitness components like flexibility, strength and psychological components are needed. In wrestling and badminton, physical movement vary on their combination of mind and physical strength.

Adults often develop a degree of movement awareness, which significantly influences their participation in various games and sports activities. Given the known variations in physiological, physical, and psychological parameters among athletes from different sports, this study aims to compare the differences in kinesthetic perception between male and female badminton players. Kinesthetic perception, being a critical component for the effective execution of skills, serves as the focus of this investigation to understand its role and variations across these two distinct sports disciplines.

Methodology and Results

Objective of the Study: The objective of the study is to compare the kinesthetic perception of male and female badminton players.

Research Hypothesis: It is hypothesized that there would be no significant difference in the kinesthetic perception between the male and female badminton players.

Significance of the study: The result of the study may be of great help to the physical education teacher and coaches to classify the students in various groups for instruction purpose and to frame the training programmer accordingly.

Research Procedure

The procedure of this study consist of selection of subjects, selection of variables, criterion measures, testing procedure and the statistical technique employed for analysis of data.

Sample of the Study: For the purpose of this study thirty badminton male and female players with the age range between 18 to 25 years were selected as subject by employing convenience sampling technique who represented Panjab University, Chandigarh in Inter-college competition. The details are presented in the table1:-

Table 1: For the purpose of this study thirty badminton male and female players with the age range between 18 to 25 years were selected as subject by employing convenience sampling technique who represented Panjab University, Chandigarh in Inter-college competition

Sr. no	Category	Num of participants
1.	Male	30
2.	Female	30
Total		60

Criterion Measures: The scores of the subject on the kinesthetic obstacle test were used as the criterion measures for this study.

Administration of Test: In order to measure the kinesthetic perception of the subject the kinesthetic obstacles test was administered (Johnson, Barry L. & Nelson, Jackson k, 1988).

Purpose: The purpose of this test was to measure the ability of subject to predict the position during movement without the use of eyes.

Reliability: 53

Validity: Face Validity.

Age & Sex: This test is for college students, male and female students.

Equipment: The test required material for blind fold, chalk markers, twelve chairs and measuring tape.

Area: An area of 40×5 feet was marked on the floor and twelve chairs were arranged as obstacles in according with floor pattern as per the requirement as indicated in figure 1:

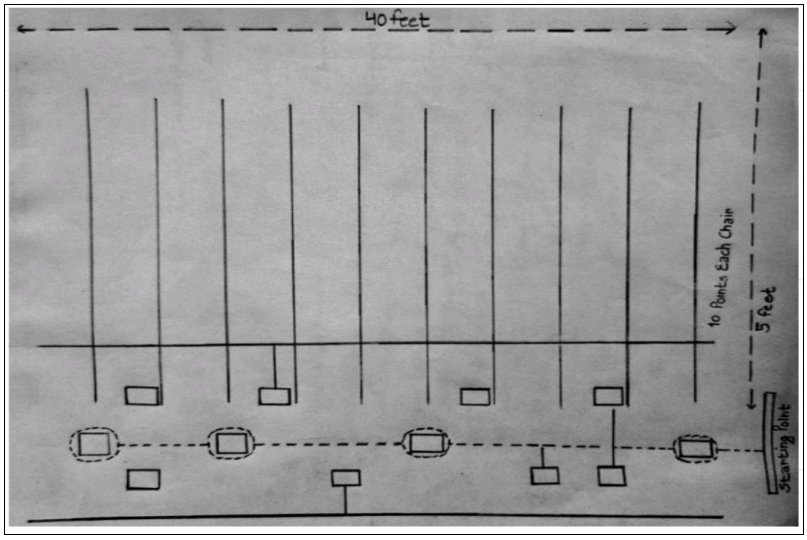

Fig 1: Marking of Kinesthetic Obstacle Test for the Test of Kinesthetic Perception.

Procedure: Each subject was allowed one practice trial of walking through the course without being blindfolded. The subject walked through the course with blindfolded for the test.

Scoring: The performer score 10 points for each stations he successfully clears without touching. There are 10 stations for maximum score of 100 points.

Penalty

1. There was a 10 points penalty for each station he successfully cleared, without touching the obstacles.
2. There was a 10 points penalty for touching any part of the body against an object. After such penalty the subject was directed to the centre line and one step ahead of that particular station.
3. There was a 5 point penalty for each occurrence the subjects was directed back into the centre of line at the nearest point from which he went astray.

So the final score were recorded to present the kinesthetic perception of the subjects.

Statistical technique

Statistical analysis was done with SPSS (Statistical Package for the Social Sciences, 20.0). Mean was calculated as a descriptive statistics and independent t-test was used to compare kinesthetic perception of male wrestling and badminton players. Then obtained "t" value was tested at 0.05 level of significance. The assumptions for applying independent were also taken into consideration.

Results and Discussion of Findings

The result of independent t- test which was applied in order ascertains the difference between male and female badminton players on kinesthetic perception have been presented below:

Table 2: Comparative analysis on Kinesthetic Perception of Male and Female Badminton Players

Group	N	Mean	Mean difference	t- ratio
A	30	50.15	2	0.41*
B	30	52.15		

Not significant at .05 level of confidence

Tabulate t.05 (58) = 2.00
Group A - Male players
Group B - Female players

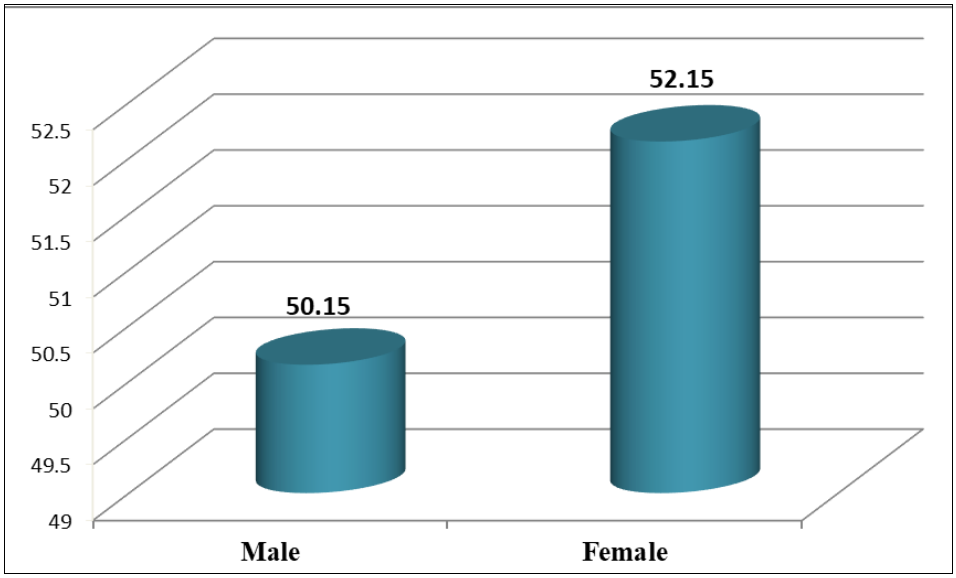

Fig 2: Comparison of Mean Scores of Kinesthetic Perception among the male and female badminton player

Analysis of data presented in Table 2 indicates that the calculated 't' ratio of t=0.41 and the means of male which was 50.15 and 52.15 of female on the basis of score of kinesthetic perception ability test was found in significant at .05 level of confidence as the calculated 't' value i.e., 0.41 which as less than tabulated 't' value i.e., 2.0 at 58 degree of freedom.

Finding and Discussion

The findings indicate no significant difference in kinesthetic perception between male and female badminton players. Both genders utilize their sensory modalities in distinct ways.

Additionally, beyond kinesthetic perception, visual and auditory senses play a crucial role in gameplay for both male and female badminton players.

The result of findings might be due to similar physiological make up of both groups.

The other reasons could be that the subjects were in the age group of 18-25 years. In this group of age all the senses are well developed.

On the basis of the result of the study it is stated that the hypothesis stated earlier that there would not have any difference between the kinesthetic perception ability among male and female badminton players, is accepted.

Conclusion

Within the limitations of the present study and on the basis of the analysis of data, the following conclusion was drawn.

There is no significant difference between the male and female badminton players in their kinesthetic perception.

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