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RELATIVE ASSESSMENT OF PSYCHOMOTOR ABILITIES AND SELECTED SKILLS IN BADMINTON

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ABSTRACT

The purpose of the study was to assess the relationship psychomotor abilities in relation to selected sports skill in Badminton. A group of sixty state and national level players from J&K state in northern India were selected purposively to attain the objectives of the study. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study. Pearson's product moment correlation coefficient technique employed to find out the relationship between selected psychomotor abilities, coordinative abilities and skill related components of fitness with selected sports skill in badminton. The level of p 0.05 was considered significant. It was found that the psychomotor abilities (i.e., Kinesthetic Perception and Speed of Movement) significantly influence the performance of Shot Serve, Clear and smash in Badminton.

KEYWORDS : Badminton, Skill Tests, Psycho-motor and Kinesthetic.

Introduction:

Psychosocial factors such as stress, hostility, depression, hopelessness, and job control seem associated with physical health—particularly heart disease. Adverse risk profiles in terms of psychosocial factors seem to cluster with general social disadvantage (Greenwood DC-2016). In this study we consider psychomotor factors to be any exposure that may influence skills in Badminton. An increased performance level can only be achieved by working and training of all major components i.e. technique, coordination, tactics, physical fitness, physiological and psychological qualities. This has motivated sports administrators, coaches, managers and players to spend time and resources evaluating their sports more scientifically. This requires that certain objective parameters be used to determine current performance and to monitor changes in performance. These parameters include anthropometric characteristics, physiological variables and sports specific skills.

Psychomotor Abilities is a perceptual- motor skill that involves the integration and processing of visual information in the central nervous system so that purposeful motor movements can be made (Abernethy B 1987). Psychomotor skills can be defined as merely muscular actions modified by learning variables. Psycho-motor tasks are elaborately interpreted to these situations that require the identification and combination of stimulus organism response elements in the coordinated spatio-temporal patterns of receptor effectors activity as a joint function of practice, repetition and reinforcing feedback so as to optimize probability, amplitude and time score in their acquisition, retention and transformation (Noble 1968). All healthy people develop some psychomotor abilities during the course of early development, and many people choose to develop those abilities further for work, athletics, or other activities. A baseball player, for instance, needs to develop his hand-eye coordination and reaction time more so than a normal person in order to consistently hit the ball. Psychomotor learning is the process by which individuals build the cognitive and physical connections necessary to gain such abilities. Over time, as one practices such abilities, the cognitive aspect becomes less and less important, as the action itself becomes automatic.

METHODOLOGY:

A group of sixty state and national level players from J&K state in northern India were selected *purposively to* attain the objectives of the study. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study.

Variable Administration-

1. Kinesthetic Perception

Purpose: to measure the kinesthetic perception of the subject.

Procedure: A yardstick was placed on the wall approximately at eye level, while student was in sitting position. The subject was asked to sit on the chair facing the yardstick and after having seen and memorized its position. Then subject was blind folded and without a practice trial he pointed the index finger of his right hand to the point indicated by instructor.

Scoring: The score was the deviation from the desired mark, measured to nearest quarter inch. The final score was the total of the deviation on three trials.

2. Speed of Movement

Purpose: To measure combined reaction and speed of movement of the hands and the arms.

Procedure: The subject set on a chair with his hands resting on the edge of the table at marked lines 30 cm apart, palms facing each other. The tester held the time i.e. wooden meter scale near its top and it hung right midway between the subject's palms and the timer scale positioned evenly with the upper edges of the subjects index fingers. After the preparatory command 'ready' was given, the timer scale was dropped and the subject attempted with a horizontal movement and stopped it as quickly as possible by clapping the hands together. Twenty trails were given to every one of the subjects.

Scoring: The score for the combined response movement read from the timer/scale at the point just above the upper edge of the hand after the catch was made. The five slowest and five fastest trails were discarded and an average of the middle ten trails were recorded as the subjects score. This distance was then computed to time score by the following

formula: Time = $\sqrt{2}$xDistance the timer(scale falls)/Acceleration due to gravity

3. Badminton skills

Purpose: To measure basic skills in the Badminton game viz. serve, clear and smash.

Procedure: i. Hicks badminton test applied for clear and smash test in Badminton

ii. French short service test applied for shot service test.

Scoring: Standardized scores as per the test direction were employed.

STATISTICAL TECHNIQUES:

The Pearson's product moment correlation coefficient method used

to find out the relationship between selected psychomotor abilities, coordinative abilities and skill related components of fitness with selected sports skill in Badminton. The level of p£0.05 was considered significant. SPSS 21v were used for the data analysis.

RESULTS:

It was found that the short serve skill of badminton players were significantly related to psycho motor abilities variables i.e., Kinesthetic Perception (r=-0.1952) and Speed of Movement (r=-0.1997) as obtained value of correlation coefficient of these variables were greater than the tabulated value 0.164 required for the correlation to be statistically significant at 0.05 level of confidence.

Table 1. *Relationship of Psycho Motor Abilities (i.e., Kinesthetic Perception and Speed of Movement) with the Performance of Badminton Player in short serve.*

Variables	Coefficient of Correlation (r)
Kinesthetic Perception	0.1952
Speed of Movement	0.1997

*Significant at.05 level of significance

Table-2 indicates that Clear skill was significantly related to psycho motor abilities variables i.e., Kinesthetic Perception (r=-0.1877) and Speed of Movement (r=-1905) as obtained value of correlation coefficient of these variables were greater than the tabulated value 0.184 required for the correlation to be statistically significant at 0.05 level of significance.

Table 2. *Relationship of Psycho Motor Abilities (i.e., Kinesthetic Perception and Speed of Movement) with the Performance of Badminton Player in clear.*

Variables	Coefficient of Correlation (r)
Kinesthetic Perception	0.1877
Speed of Movement	0.1905

*Significant at.05 level of significance

It was found that smash skill was significantly related to psycho motor abilities variables i.e., Kinesthetic Perception (r=0.1854) and Speed of Movement (r=0.1833) as obtained value of correlation coefficient of these variables were greater than the tabulated value 0.184 required for the correlation to be statistically significant at 0.05 level of confidence.

Table 3. *Relationship of Psycho Motor Abilities (i.e., Kinesthetic Perception and Speed of Movement) with the Performance of Badminton Player in smash.*

Variables	Coefficient of Correlation (r)
Kinesthetic Perception	0.1854
Speed of Movement	0.1833

CONCLUSION:

It was concluded that the psychomotor abilities (i.e., Kinesthetic Perception and Speed of Movement) significantly influence the performance of Shot Serve, Clear and smash in Badminton.

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