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Rajeeva HN

Assistant Professor,
(Physical Education), College of
Horticulture, Kolar, Karnataka,
India.

C Venkatesh

Assistant Professor,
Dospess, University of Mysore,
Mysore, Karnataka, India.

Relationship between psychological variables, motor ability variables and performance among University male Basketball players

Rajeeva HN, C Venkatesh

Abstract

A good Basketball player is fast, strong, skilful and decisive such attributes may be naturally endowed by training and practice brings them to fore. The purpose of this study was found out a relationship between psychological, motor ability and performance among university basketball players. Sixty (60) male basketball players of interuniversity players were randomly selected from various universities in Karnataka state. The data was analyzed using descriptive and correlation coefficient. The analysis indicated the psychological variable kinesthetic perception and motor ability variables leg power, speed, agility and flexibility. The results of this study showed a significant correlation between university male Basketball player's performance and Flexibility, Kinaesthetic perception, Agility, Speed of Movement and Explosive Power.

Keywords: psychological variables, Motor ability variables, Performance, University Basketball players.

Introduction

Physical fitness is the capacity of a person to function steadily and smoothly when a situation arises. Physical exercises makes one mentally sharpen, physically comfortable and ease with his body and better able to cope with the demands that everyday life makes upon him. Increased motor qualities efficiency not only improves health but improves performance at work. Hundreds of American companies have back this idea financially by employing full time directors of fitness for their work. Participation in the top-notch competitive Basketball requires the player to be in a state of optimum fitness.

Proficiency in any sport requires an ideal integration of numerous abilities developed to an ideal degree Fleishman identified the dimensions underlying the human performance into the physical proficiency (fitness) area, sports psychology and specific motor ability area. The factors of strength, power, stamina, flexibility, coordination and balance constituted proficiency whereas reaction-time, speed of movement, arm-hand steadiness, visual perception, manual dexterity and rate control were the abilities considered under psychology and motor ability domain.

Hence the aim of this study was to point out the relationship between psychological variables, motor ability variables and performance among university male Basketball players.

Method

The subjects selected for this research were 60 male university Basketball players aged between 18 to 28 years old, who represented concerned universities in interuniversity tournaments. The subjects were selected randomly, also having at least 3-4 years playing experiences in Basketball.

The study was conducted according to the ethical principles for clinical research involving human subjects in accordance to the Declaration of Helsinki and all data were collected in the forenoon (8 to 12 am).

Psychological and motor ability variables assessment

• **Explosive Power**

Five double leg bounds test: This test is used to measure the explosive power of the legs.

• **Speed of Movement**

Nelson Speed of Movement Test: The objective was to measure combined reaction and Speed of Movement of hands and the arms.

Correspondence

Rajeeva HN

Assistant Professor,
(Physical Education), College of
Horticulture, Kolar, Karnataka,
India.

Agility

SEMO-Agility Test: This test is used to determine the general agility of the body in manoeuvring forward, backward and sideward movements.

Kinesthetic Perception

Horizontal Space Test (Test of Horizontal Distance): The objective was to measure the Kinesthetic Perception ability to determine specific positions along the horizontal line.

Flexibility

Upward- Backward Movement of Arms Test: This test is used to measure the flexibility of the shoulder and shoulder girdles.

Performance assessment

The Basketball playing ability of the subjects was assessed by the application of a Basketball Rating Scale. Basketball performance (rating scale) was prepared by a panel of experts comprising two experienced Basketball coaches and a National Level Basketball player.

Description Basketball Rating Scale:

Each of the seven components of Basketball playing ability, namely: 1. Passing, 2. Dribbling, 3. Jump shot from various distances, 4. 3 point Shooting, 5. Defense, 6-Offence has scored based on following information. For overall game was scored on 10 to 1 also.

Rating scale for assessment of performance in Basketball player

- **5 points:** Outstanding performance, near perfectness during the execution of skills
- **4 points:** Above average ability, quite skilful (but not perfect)
- **3 points:** Average ability, distinctive
- **2 points:** Below average ability, characterized by more mistakes than was typical
- **1 point:** Sub-standard ability, far below typical performance

Statistical Method

The descriptive statistics was used for description of data and means (M) and standard deviations (SD) were calculated. Pearson correlation test was used for relationship of psychological variables, motor ability variables and performance. Analyses were carried out using SPSS v18.0 (SPSS, 2009). Significance was set at $p < 0.05$ for all tests.

Table 1: Descriptive analysis of psychology and motor ability variables

Variables	N	Mean	Std. Deviation	Std. Error
Flexibility	60	29.66	7.57	0.69
Kinesthetic perception	60	5.18	2.97	0.27
Agility	60	13.97	1.34	0.12
Speed of Movement	60	14.57	3.55	0.32
Explosive Power	60	30.69	6.43	0.59

Table 2: Descriptive analysis of performance

Variable	N	Mean	Std. Deviation	Std. Error
Performance	60	32.61	4.20	0.38

Correlation Coefficients between psychological variables, motor ability variables and performance

Significant correlations were detected between psychological, motor ability variables and performance (Table 4). The results of this study showed significant correlation between university

male Basketball players performance and Flexibility ($r = .250, p < .006$), Kinesthetic perception ($r = .217, p < .017$), Agility ($r = -.324, p < .000$), Speed of Movement ($r = -.188, p < .040$) and Explosive Power ($r = -.295, p < .001$).

Table 3: Correlation Coefficients between psychology and motor ability variables and Performance

Performance			
Variables	N	Pearson Correlation	Sig. (2-tailed)
Flexibility	60	.250(**)	.006
Kinesthetic perception	60	.217(*)	.017
Agility	60	-.324(**)	.000
Speed of Movement	60	-.188(*)	.040
Explosive Power	60	-.295(**)	.001

* Correlation is significant at the 0.05 level (2-tailed)
 ** Correlation is significant at the 0.01 level (2-tailed)

Results

- The results of this study showed a significant correlation between university male Basketball player’s performance and Flexibility, Kinesthetic perception, Agility, Speed of Movement and Explosive Power.
- Statistically highly negative significant correlation was found between explosive power and performance.
- Statistically negative significant correlation was found between Speed of movement and performance.
- Statistically highly negative significant correlation was found between Agility and performance.
- Statistically positive significant correlation was found between Kinesthetic Perception and performance.
- Statistically highly positive significant correlation was found between Flexibility and performance.

Conclusion

Hence, the investigator concludes the study that, the present study indicates a definite role/contribution of psychological and motor ability variables on Basketball players, in turn having influence on sports performance. Psychological and motor abilities do have direct or indirect influence over performance. Psychological and motor abilities are required by Basketball players to improve their performance and ultimately excel in their game.

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