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RELATIONSHIP OF BASKETBALL PLAYER'S PERFORMANCE WITH THE SELECTED ANTHROPOMETRIC AND PSYCHOLOGICAL VARIABLES

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ABSTRACT

The purpose of the study was to investigate the relationship of anthropometric and psychological variables to the performance of male basketball players. Forty male National players of Basketball were selected as subjects. The dependent variable was Basketball performance and independent variables were anthropometric and psychological variables. Basketball performance was determined by taking expert opinion from out of 30 points (each 10 points) a panel of three experts and the composite of three scores was considered as Basketball performance. Anthropometric variables included height, weight, arm length, leg length, chest girth and calf girth which were measured by Stadiometer, weighing machine and steel tape respectively. Psychological variables included Sports Competition Anxiety and Achievement motivation were measured by the Sports Competition Anxiety Test (SCAT) prepared by Rainer Martens and Sports Achievement Motivation Test (SAMT) constructed by M.L. Kamlesh respectively. All the subjects were from Bundelkhand Region. The data were analysed using the Pearson product moment (r) for assessing the relationship of the basketball performance to each of the anthropometric and psychological variables. Level of significance for testing the null hypothesis was set at 0.05.

KEY WORDS: relationship of anthropometric and psychological variables.

INTRODUCTION

The preparation of an athlete today for achievement is a complex dynamic matter, characterized by a high level of physical and physiological efficiency and the degree of perfection of necessary skill and knowledge and proper teaching and tactics. An athlete arrives at this state only as a result of corresponding training sports activity in this respect is an activity directed at steadily enhancing the preparation of an athlete and grooming him for a higher level achievement. Many other factors are also brought in to action in



his preparation such as special nutrition; organization of a general region in accordance with conditions of sports activity rehabilitation after injury etc., thus athletes training today is a multisided process of expedient use of aggregate factors so as to influence the development of an athlete. (Matveyer, 1981)

Physical educators have long realized that the performance of boys and girls is greatly influenced by factors such as age, height, weight and body structure. It is also acknowledged that the persons of the same age

will vary considerably in body size and shape that individual of the same height will differ greatly in body weight that person may weigh the same but the relative proportion of the muscle fat and bone will be anything but equal. (Harrold, 1979)

Sports psychology is a science in which the principles of psychology are applied in a sport or exercise setting. These principles are often applied to enhance performance. However, the true sports psychologist is intended in much more than performance enhancement and sees sport as a vehicle of human enrichment. The sports psychologist takes interest in helping every sports participant to reach his or her potential as an athlete. In modern competitive sports the anxiety in sportsman has affected their performance. As the physical load during the training of sportsman for international competition has also intensified. The sportsmen are anxiety prone while participating in competitive sports. (Singh, 2001)

Achievement motivation is dominant motivational orientation in situation characterized by the attainment of clear success or failure. The two primary motives are either to achieve success (Mass) or to avoid failure. (Anne and Cripe, 1986)

In sports an anthropometric and psychological variable plays a very vital role to predict the players performance therefore this study was hypothesized that there would be no significant relationship of Selected Variables with the Performance of Male Basketball Players.

METHODOLOGY

For the present study a total of 40 male basketball players were selected. The age of the subjects was ranging from 18 to 28 years and all subjects belong to Bundelkhand Region. The criterion measures for all the selected Anthropometric and Psychological variables were presented in table 1.

Table 1
CRITERION MEASURES

S. No.	Variable	Equipment /test	Unit
1.	Standing height	Stadiometer	Centimeter
2.	Weight	Weighing Machine	Kilogram
3.	Arm length	Steel tape	Centimeter
4.	Leg length	Steel tape	Centimeter
5.	Chest girth	Steel tape	Centimeter
6.	Calf girth	Steel tape	Centimeter
7.	Sports Competition Anxiety	Measured by the Sports Competition Anxiety Test (SCAT) prepared by Rainer Martens.	By Scoring
8.	Achievement motivation	Measured by Sports Achievement Motivation Test (SAMT) constructed by M.L. Kamlesh.	By Scoring

Performance in basketball was measured by judging subjects playing ability. Playing ability of all players were judged (out of 10 points by each judge) by a panel of three experts and the composite score (30 Points) was considered as playing ability. The rating scale was as follows 30 Marks- Excellent Performance, 24 Marks – Good, 18 Marks- Average, 12 Marks- Below Average, and 6 Marks- Poor

Each subject was given marks according to their performance by all 3 judges. From these ratings, the composite score of three score was taken as performance of the player. This was done to eliminate the chances of biasness among the judges. Before the administration of test the subjects were given a chance to practice the prescribed tests so that they became familiar with the tests and knew exactly what was to be done. The use of apparatus was explained to them prior to the administration of tests. To ensure uniform testing condition the subject were tested only during the morning and evening session for anthropometric, physiological and psychological variables respectively. To ensure that the investigator was well versed in the technique of conducting the tests, the investigator had number of practice session. Necessary instructions

were also given to the subjects before responding to the questionnaire. When the investigator was sure that the subjects understood clearly the instruction, the questionnaire was distributed among the subjects. They were given enough time to answer the questionnaire. The questionnaires were collected from the subjects after they duly completed.

To characterize the anthropometrical, physiological, psychological variables and performance of male basketball players, descriptive statistics was used and to find out correlation between dependent variable (basketball performance) and independent variables (anthropometrical, and psychological variables), Pearson's Product Moment method of correlation was used.

RESULT AND DISCUSSION

Descriptive statistics were presented in tables 2 & 3.

Table-2
Descriptive Analysis of Selected Anthropometric Variables of Male Basketball Players

Variables	Mean	S.D	Variance	Skew.	Kurt.	Range	Min.	Max.	SE
Height	180.33	7.49	56.04	0.16	-0.55	29.20	166	195.20	1.18
Weight	73.02	7.47	55.82	0.70	1.30	38	56	94	1.18
Arm Length	79.15	3.67	13.46	0.58	0.53	18	72	90	0.58
Leg Length	98	4.94	24.4	0.27	-0.71	18.50	89.50	108	0.78
Chest Girth	88.37	4.86	23.62	0.44	-0.90	18	81	99	0.77
Calf Girth	36.21	2.68	7.20	-0.09	0.37	13.50	29.50	43	0.42

Table-2 reveals that the average values of anthropometrical variable of Male Basketball Players are: Height 180.33±7.49, Weight 73.02±7.47, Arm Length 79.15±3.67, Leg Length 98±4.94, Chest Girth 88.37±4.86 and Calf Girth 36.21±2.68.

Table-3
Descriptive Analysis of Selected Psychological Variables of Male Basketball Players

Variables	Mean	S.D	Variance	Skew.	Kurt.	Range	Min.	ax.	SE
Sports Competition Anxiety	18.17	2.18	4.77	-0.15	0.85	11	12	23	0.34
Achievement Motivation	30.70	4.06	16.52	-0.31	-0.73	16	22	38	0.64

Table-3 reveals that the average values of Psychological Variables of Male Basketball Players are: Sports Competition Anxiety 18.17±2.18, Achievement Motivation 30.70±4.06.

To determine the relationship of Anthropometric, and Psychological variables with the Basketball Performance, the data collected was analyzed using the correlation (Pearson Product Moment Correlation) have been presented in tables 4 & 5.

Table – 4
Relationship between Selected Anthropometric variables and Performance of Male Basketball Players

Anthropometric Variables	Correlation coefficient
Height	0.323*
Weight	-0.177
Arm Length	0.309*
Leg Length	0.304*
Chest Girth	0.174
Calf Girth	0.073
*Significant at .05 level	
r_{0.05} (38) = 0.304	

Table -4 reveals that Basketball Performance is significantly correlated with Height, Arm Length and Leg Length as the correlation coefficient values (0.323, 0.309, 0.304) are found higher than the tabulated value at 0.05 level of significance. Basketball Performance is not found significant with Weight, Chest Girth, and Calf Girth as the correlation coefficient values are found lower than the tabulated value at 0.05 level of significance.

Table-5
Relationship between Selected Psychological variables and Performance of Basketball Male Players

Independent Variables	Correlation coefficient
Sports Competition Anxiety	-0.463*
Achievement Motivation	0.674*

*Significant at .05 level

$r_{0.05} (38) = 0.325$

Table -5 reveals that Basketball performance is found significantly correlated with Sports Competition Anxiety and Achievement Motivation as the correlation coefficient values (-0.463, 0.674) are found higher than the tabulated value at 0.05 level of significance.

In the light of the findings of the present study the hypothesis that there would be no significant relationship between selected anthropometric, psychological variables and performance of Basketball players was partially rejected not in case of only three anthropometric variables i.e. Height, Arm Length and Leg Length with Male Basketball performance and for psychological variables i.e. Sports competition anxiety and Achievement motivation with Male Basketball performance. Whereas hypothesis was partially accepted in case of other selected anthropometric variables i.e. weight, chest girth, calf girth with Male Basketball performance.

CONCLUSION

Within the limitation of the study, it was concluded as per the result obtained that the Anthropometric variables namely Height, Arm Length and Leg Length were significantly related to performance of Male Basketball players. Among psychological variables, sports competition anxiety and achievement motivation were significantly related to performance of Male Basketball players. Whereas Weight, Chest girth and calf girth (anthropometric variables) were not found significantly related to performance of Male Basketball players and Height, weight, and chest girth (anthropometric variables) contribute most to Male Basketball performance. Therefore hypothesis stated earlier was partially accepted and partially rejected.

BIBLIOGRAPHY

- Barrow, Harrold M., and Rose, Mary Mc. Gee. (1979). Practical approach of measurements in physical education. Philadelphia: Lea and Febiger.
- Bell, Keith F. (1983). Championship thinking the athlete's guide performance in all sports. London: Prentice Hall Inc.
- Bloomfield, J., Peter, A. Fricker, & Kenneth, D. Fitch (1995). Can running injuries be effectively prevented. The journal of Sports Science and Medicine 1, 161.
- Campos, F. A. D., Daros, L. B., Mastrascusa, V., Dourado, A. C., & Stanganelli, L. C. R. (2009). Anthropometric profile and motor performance of junior badminton players. Brazilian Journal Biomotricity, 3, (2), p. 146-151.
- Clarke, H. Harrison., and Clarke, David H. (1972). Advanced statistics with applications to physical education. New Jersey: Prentice Hall, Inc.
- Goel, R.G. (1975). Encyclopedia of sports and games .New Delhi :Vikas Publishing House.

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- Levitt, E.E. (1985). The psychology of anxiety. New Jersey: Erlbaum, 1980 cited by Richard H. Cox, sports psychology concept and application.(Kansus state university Publishers).
- Martens, R. (1982). Sports competition anxiety test. Human Kinetics Publishers.
- Matveyer. (1981). Fundamentals of sports training. Moscow: Progress publishers.
- Singh,Agyjit. (2001). Psychology of coaching. SNIPES, Publishing Patiala.