Physical Education

Research Paper



Prediction of Kabaddi Playing Ability From Selected Fundamental Skills, Motor Abilities, Anthropometric Variables and Psychological Factors for University Men Kabaddi Players * S. Saravanan ** Dr. A. Amuldoss

* Physical Education Director, King Nandivaraman College of Arts and Science, Thellar- 604 406, Tiruvannamalai Dist., Tamilnadu, India

** Director of Physical Education, Department of Physical Education, Thiruvalluvar University, Vellore - 632106

ABSTRACT

The primary purpose of the study was to predict the kabaddi playing ability from selected fundamental skills, motor abilities, anthropometric variables and psychological factors for university men kabaddi players. The subordinate purpose was to assess the relationship between the selected skills, motor abilities, anthropometric variables, psychological factors and kabaddi playing ability of the university kabaddi players. The statistical analysis of the data indicated that Raid, Catch and strength showed significant relationship with kabaddi playing ability at University level.

Keywords : Playing ability, Motor ability, Anthropometric variables

Introduction

Kabaddi is a combative team game and aptly known as the "GAME OF THE MASSES" due to its popularity, simple easy to comprehend rules, and public appeal. Kabaddi played with absolutely no equipment in a rectangular court, either outdoors or indoors with seven players on the ground in each side. Each side takes alternate chances at offence and defense. The Kabaddi game calls for agility, good lung capacity. Kabaddi is a team game which demands output of individual skills, motor abilities, anthropometric variables and psychological efficiency. The study attempts to assess the following predictive variables namely selected skills, motor abilities, anthropometrical and psychological factors for Kabaddi playing ability of University men players. The objective determination of playing ability in team games is very difficult. Hence a subjective rating by a number of kabaddi coaches and kabaddi experts can be made as a measure of criterion variables for prediction of playing ability. Since it is possible to predict the playing ability of players from a number of predictor variables, the investigator attempted to derive a multiple regression equation utilizing most common skills and factors that are necessary in Kabaddi for a player to attain high proficiency in the game. The reason for doing this study was that little effort had been made to develop a Regression equation for prediction based on data from University Kabaddi players. Therefore, it is the purpose of the investigation to establish a regression equation for University Kabaddi players and then evaluate predictions arrived at by these equations.

tion design was employed to predict Kabaddi playing ability from chosen variables. The study observed selected skills, motor abilities, anthropometrical and psychological variables which were considered as the essential ingredients for the game of Kabaddi. The primary purpose of the study was to predict the kabaddi playing ability from selected fundamental skills, motor abilities, anthropometric variables and psychological factors for university men kabaddi players and to assess the relationship between the selected skills, motor abilities, anthropometric variables, psychological factors and kabaddi playing ability of the university kabaddi players.

One hundred kabaddi players who participated in the inter university kabaddi competitions during the years 2010-2011 were selected as subjects for the study. The dependent variable kabaddi playing ability was assessed by a panel of three experts of kabaddi game. The fundamental skills, motor variables, anthropometric variables and psychological variables were tested as independent variables through various tests. The skills (Raid and Catch) were measured using various subjective rating and tests. Motor abilities (strength and agility) were measured leg sift test and 4 x 10 yards shuttle run tests. Anthropometric variables (height and weight) were measured by using flexible steel tape. The psychological factors (aggression, self confidence and cooperation) were assessed by questionnaire. Pearson's product moment correlation, Multiple correlation and WherryDoo Little test were employed to study the individual relationship of selected variables and kabaddi playing ability where the level of significance was fixed at .05 level of confidence.

Design of the Study

Table – I

The study had chosen random selection method and predic-

Inter - Correlation of Skills, Motor abilities, Anthropometric Measurements and Psychological factors of University Kabaddi Players

Total playing Ability	Raid	Catch	Strength	Agility	Height	Weight	Aggression	Self confidence	Co- operation
	1	2	3	4	5	6	7	8	9
С	.711	.480	.387	594	.153	0407	.0653	006	.108
1		.359	.267	.543	.353	.0963	.0297	0478	.126
2			.0527	312	0945	.0597	0071	0702	.143
3				218	.0587	.0517	.0916	047	.160
3	l	I		210	1.0007	.0317	1.0910	047	1.100

-										
4						228	0934	217	.267	223
5							.489	.0141	106	.0284
6								0954	.0622	.0558
7									438	.323
8										32
Mean		7.958	7.742	17.075	10.992	1.714	67.183	14.442	44.325	17.358
S.D		1.040	0.983	1.189	1.622	0.0437	6.202	2.780	7.662	2.941
C V mean = 8.233	S.D =	1.002								
Key: C	=	Kabaddi playing ability		6	=	Weight				
	1	=	Raid		7	=	Aggression	1		
	2	=	Catc	h	8	=	Self Confid	ence		
	3	=	Strer	ngth	9	=	Cooperatio	n		
	4	=	Agilit	v	df	=	N-2 = 120-	2 = 118		
	5	=	Heig	ĥt						

significant at .05 level of confidence

mula is

σ

The statistical analysis of the data in the above Table-I pertaining to the university kabaddi players clearly shows that the kabaddi playing ability has significant relationship with Raid (.711), Catch (.48), strength (.389), Agility (-.594). It also shows that the correlation between independent variables and dependent variables as follows. Raid and catch (.359), raid and strength (.267), raid and agility (.523), raid and height (.353).

Catch and agility	-	312
Agility and height	-	228
Agility and aggression	-	2170
Agility and self confidence	-	.2670
Agility and co-operation	-	2230
Aggression and self-confidence	-	438
Aggression and cooperation	-	.323
Self confidence and cooperation	-	32

When the multiple correlation is high enough to warrant prediction, the WherryDoo Little method can be continued into a multiple regression equation in standard score form. 1.Construct 4 - 1F table from 4 -1E table. To do so draw off the 'c' entices for the tests selected for the multiple correlation in the order in which they were selected and for criterion. When equated to zero, each row in the table is an equation defining beta weights. For the three tests selected the equations are

- 1.000 β ₁ - 1.000 β ₂ - 1.000 β ₃	- 0.359 β + 0.1704 + 0.2604	₂ - 0.267 β β ₃ + 0.257	3 + 0.711 79	= = =	0 0 0		
Solve the $\beta_3 = -0.2$	3 rd equatio 2604 / -1	on					
Solve the 2^{nd} equation $\beta_3 = 0.2604$							
- 1.000 β ₂ - 1.000 β ₂	+ 0.1704	(0.2604)	= =	- 0.2579 - 0.2579 -	0.0443		
$egin{smallmatrix} \beta_2 \ \beta_2 \ \end{pmatrix}$	=	-0.2136 / 0.2136	-1				
Solve the - $\beta_1 - 0.35$ - $\beta_1 - 0.07$ - β_1 - β_1 $\beta_1 = 0.56$	first equat 9 (0.2136 66 - 0.069 = - 0.711 = - 0.5649 649	0.2604)	= - 0.711 = - 0.711				

The regression equation for predicting the criterion from the three selected tests is written in standard score from by means of the following equation.

 $\begin{array}{l} \text{Zc}=\beta_1Z_1+\beta_2Z_2+\beta_3Z_3 \text{ Substituting the values derived} \\ \text{Zc}=.5649Z_1+.2136\ Z_2+.2604\ Z_3 \end{array}$

The beta weights can be changed to score weights if the regression equation in score form is desired. The general forr .05 (120) = . 178

bp = σ_{P} P where P – represents the variable

c - represents the criterion

- 0.983 $b_{2} = 0.2177$ $b_{3}^{2} = \sigma_{c}^{2} \beta_{3}$ σ_{3}
- <u>1.002</u> x 0.2604
- 1.189 b₂ = 0.2194

The regression equation in score form is now written $Xc = b_1X_1 + b_2X_2 + b_3X_3 + K$ $Xc = .5442X_1 + .2177X^2 + .2194X_3 + K$

K constant is derived when each X is related to x equivalent. The regression equation in the deviation form is used to find out K

$$\begin{array}{l} X_2 = & b_1 X_1 + b_2 X_2 + b_3 X_3 \\ XC - MC = b_1 (X_1 - M_1) + b_2 (X_2 - M_2) + b_3 (X_3 - M_3) \\ Xc = .5442 (X_1 - 7.958) + .2177 (X_2 - 7.742) + .2194 (X_3 - 17.075) + 8.233 \\ Xc = & .5442 X_1 - 4.3307 + .2177 X_2 - 1.6854 + .2194 X_3 - 3.7462 + 8.233 \\ \end{array}$$

Clear parenthesis

Xc = .5442 X₁ + .2177 X₂ + .2194 X₃ - 4.3307 - 1.6854 - 3.7462 + 8.233

Collect K value K = -4.3307 - 1.6854 - 3.7462 + 8.233 = - 9.7623 + 8.233 - 1.5293

The regression equation in the score form Xc = .5442 X₁ + .2177 X₂ + .2194 X₃ - 1.5293

When the multiple correlation was computed with the help of WherryDoo Little test selection method, it resulted in a R of

Rc.123 = .7863

The following prediction equation had been developed. Xc = .5442X1 + .2177 X2 + .2194 X3 - 1.5293

Conclusion

The statistical analysis of the data indicated that Raid, Catch and strength showed significant relationship with kabaddi playing ability at University level.

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