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Prediction of Female Judo Performance for Selected Physical and Physiological Variable in 52 Kg Weight Category

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Abstract

Judo is a martial art that was established in Japan, and it is now famous around the world sports. Millions of people participate in sport, watch and hear about them and spend billions of dollars on sports related activities and equipment's. Sports is also one of the factor solidifying national integration and developing national character, which are the most urgent needs of Competitive sports have a very high value in society. The purpose of present study was to find out the analysis of selected physical and Physiological variables in 52 kg weight category. The subjects for this study were selected from Different states of India. A total of 105 female judo players from different state of India were selected, 15 from each weight Category. The Physical and the Physiological variable was collected by the suitable test and under control laboratory. The regression analysis technique was used for analysis of data. The study finds out that the there is relationship between the physical and physiological to the performance.

Keywords: Judo, Physical, Physiology, Regression Analysis

1. Introduction

Judo is a martial art that was born in Japan, and it is now known around the world as an Olympic sport. Judo was established in 1882 by combining jujitsu, a form of wrestling, with mental discipline. The roots of jujitsu lie in sumo, which has a long, long history; sumo is mentioned in the Nihon shoki (Chronicle of Japan), a document from 720 that describes the history of Japan from the mythical age of the gods until the time of Empress Jito, who reigned from 686 to 697.From the twelfth to the nineteenth century Japan was ruled by the samurai, a class of professional soldiers. This provided fertile ground for various martial arts to develop. In addition to fighting with swords and bows and arrows, the samurai developed jujitsu to fight enemies at close quarters on the battlefield. Several different styles of jujitsu evolved, and hand-to-hand combat spread as an important form of military training. Among contact games judo has become a very popular game in the world. Almost all the nations play the game both for enjoyment and competition.

First it was formulated by Dr.Jigaro Kano in Japan. Although he had adapted it from Japanese forms of self defence, such as ju- jutsu, he saw it more as a discipline and certainly not as a sport. Judo was looking for some way of improving the physical fitness of school children Kano suggested judo, not just

from the point of view of bodily health but also because it was seen as producing spiritual and mental fitness. From that point, judo spread rapidly but, by the very nature of its technique, it also becomes a competitive sport, which became the main reason for injuries among judokas.

Materials

Subjects

Total of 105 female judo players from different state of India were selected, 15 from each weight Category. All the physical variables data were collected through the suitable test and physiological variables were collected by using the controlled laboratory and the performance were measure by the expert judges.

Methodology

For the purpose of study 15 female judo players were selected randomly by using the random sampling technique. All the players were participated in the National level in the 52 kg weight category.

Results

Regression analysis were used to find out the prediction between the selected kinematic variables.

Figure- 1

Plot of normal probability in relation to residuals distribution of 52-kilogram weight category Judo player

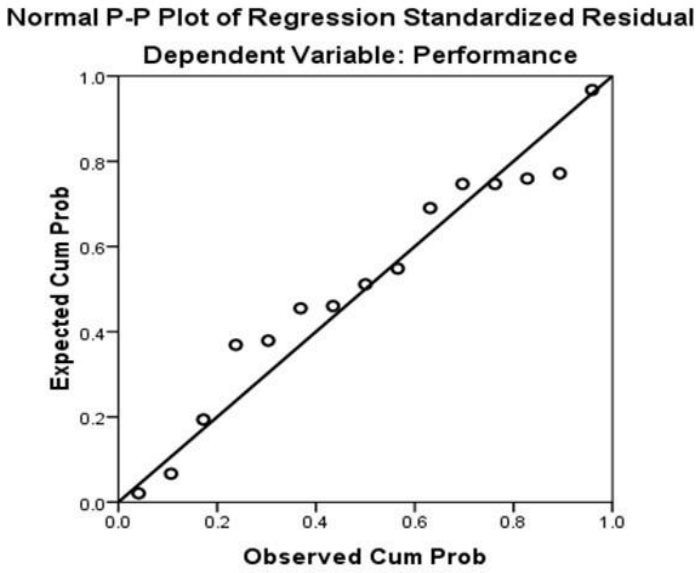

Figure 1 shows the normal probability plot. All the observations are scattered near to the expected line.

Table- 1

Coefficients related to estimation of 52-kilogram weight category Judo players performance on the basis of selected physical and physiological variables.

Coefficients										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	7.418	1.774		4.182	.001	3.586	11.250		
	Flexibility	.886	.110	.912	8.043	.000	.648	1.125	1.000	1.000
a. Dependent Variable: Performance										

Above table 1 shows the unstandardized and standardized coefficient in all models. Since standardized and unstandardized coefficients were used for developing the model. Since the t- value is less than 0.05. So, the flexibility variable can develop a model on the dependent variable performance.

Table- 2

ANOVA table related to estimation of 52-kilogram weight category Judo players performance on the basis of selected physical and physiological variables

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.771	1	7.771	64.684	.000
	Residual	1.562	13	.120		
	Total	9.333	14			
a. Predictors: (Constant), Flexibility						
b. Dependent Variable: Performance						

Above table- 2 shows that the usefulness of all created models. The model is found useful since the value of “F” is found significant in the case.

Table- 3

Model summary related to estimation of 52-kilogram weight category Judo players performance on the basis of selected physical and physiological variables

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.912[a]	.833	.820	.34662
a. Predictors: (Constant), Flexibility				
b. Dependent Variable: Performance				

Table- 3 shown the R2 is .833 which is the highest model and therefore the model will developed. As the R2 value is 0.833 which means the variables explain 83.3% variation of judo performance. The model is established on the basis of flexibility.

Discussion and Finding

The significance relationship was found between the independent variables physical variable flexibility on the dependent variable performance of judo. Thus the R2 in the above table 3 indicate that the 83.3% contribute in the performance of the judo skill. So regression model is developed and hence the physical variable may contribute to the Judo performance. The more the flexibility of the players more will gain the balance as well as it may help the players to extend more skill ability and maintaining the body for the longer period of time. Thus the flexibility play an important role in performing the Judo skills

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