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Construction and Evaluation of Test and Norms on Endurance among Different Topography of Goa State School Boys

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Abstract

A test is an instrument or tool used to make the particular measurement. The criteria used to evaluate a test in terms of its scientific worth are reliability, objectivity, validity and norms. Reliability and objectivity simply refer to the consistency of the measurement for any giving test, that is, if the tests were administered to a group the same results would be had from the test if it were administered to the identical group another time. A norm is standard point of reference than can provide a basis for judgment. The purpose of the study was to construct a new test and norm on endurance among different topography of Goa state school boys. To achieve this purpose, 100 school boys in the age group of 15 to 17 years from different topography of Goa state were randomly selected as subjects. The subjects (N=100) were randomly selected where 50 subjects from high altitude (hill region) and 50 subjects from low altitude (coastal region).To assess the endurance of the subject, 1000-meter run test used as a newly constructed test. The researcher designed the research method in three phases such as pilot study phase, test phase and validity phase. During pilot study phase, 10 subjects were participated to design, refine and finalize the constructed tests. During the test period, 20 subjects were participated to reconstruct and finalize the tests. During validity phase, data were collected to assess the endurance. Pearson's Product Moment Correlation was used to correlate the constructed test scores and criterion test scores to establish the validity of the newly constructed test and hull scale was used to construct the norms. The subjects were classified and thereby the objectivity of the test could be proved. It was concluded that the consistency of the newly constructed test to measure endurance was reliable, valid and objective.

Keywords: Test, Norms, Endurance.

Introduction

A test is administered more than one student are usually interested in the extent to which they have improved. They like to compare their current score with a previous score, which in itself, can be a motivational factor. Test generally is used to describe instrument procedures and techniques that result in responses that can be evaluated in terms of their correctness (Harold. MBarrow, and McGee 1989).

Norms are used to interpret relative standing to compare scores or groups and either to combine or average scores. Norms imply a large number of cases. One hundred cases are minimal and several hundred is more desirable. The norms taken for the study identifies a person in relation to a given sample whose norm has been determined. Any judgment made about the norm is made by the person using the norm score. The norm scales are accepted a valid and practical criterion for evaluating the individual physical fitness tests.

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When norm scales are being constructed one must consider the practical, statistical and educational principles (Yobu, A., 1991).

Endurance is the ability to do sports movements, with the desired quality and speed, under conditions of fatigue (Hardayal Singh, 1991). Cardiovascular endurance is the ability of the body to deliver oxygen effectively to the working muscles so that an individual can perform physical activity (Wuest, Deboran A., et. al,, 1992).

Purpose of the study

The purpose of the study was to construct a new test and norms on endurance among different topography of Goa state school boys.

Hypothesis

It was hypothesized that the newly designed test would truly measure the endurance among different topography of Goa state school boys.

Methodology

The purpose of the study was to construct a new test and norm on endurance among different topography

of Goa state school boys. To achieve this purpose, 100 school boys in the age group of 15 to 17 years from different topography of Goa state were randomly selected as subjects. The subjects (N=100) were randomly selected where 50 subjects from high altitude (hill region) and 50 subjects from low altitude (coastal region).To assess the endurance of the subject, 1000-meter run test used as a newly constructed test. The researcher designed the research method in three phases such as pilot study phase, test phase and validity phase. During pilot study phase, 10 subjects were participated to design, refine and finalize the constructed tests. During the test period, 20 subjects were participated to reconstruct and finalize the tests. During validity phase, data were collected to assess the endurance. Pearson's Product Moment Correlation was used to correlate the constructed test scores and criterion test scores to establish the validity of the newly constructed test and hull scale was used to construct the norms. The subjects were classified and thereby the objectivity of the test could be proved.

Results

Table 1

Validity Coefficient of the Constructed Test and Criterion Test for Endurance

	Mean	**Std. Deviation**	**N**
Constructed Test	7.7820	.87490	100
Criterion Test	7.8874	1.18811	100

		Constructed Test	**Criterion Test**
Constructed Test	Pearson Correlation	1	.689**
	Sig. (2-tailed)		.000
	N	100	100
Criterion Test	Pearson Correlation	.689**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

Table 2

Hull Scale Value for Endurance Test

Variable	**Mean**	**SD**	**HullScale Constant**
Endurance	7.782	.8750	.061

To construct the norms for the endurance test, Hull scale test was constructed. The Hull scale value 0.061 was serially added to and subtracted from mean to determine the value from zero to hundred in the scale. When the Hull scale value 0.061 was added to the mean score 7.782, the endurance performance of the constructed test for 51st score was calculated as 7.843. Similarly, for the 49th score Hull scale was deducted from the mean and was calculated as 7.721.

Conclusion

It was concluded that the consistency of the newly constructed test to measure endurance was reliable, valid and objectiveas the test has been carefully constructed with great care, clear test directions, precise scoring method and adherence of them. Through the constructed test, norms have been constructed and the boys were classified. The newly constructed test would truly measure the endurance of an individual.

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