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MEASURE CHARACTERISTICS OF MOTOR TESTS OF MOVEMENT FREQUENCY WITH STUDENT FROM MACEDONIA AND KOSOVO

Introduction

The tests of good measure characteristics are a multiple matter of interest. They can be property used in the work of selecting young athletes as well as programming the physical activities and giving marks in classes.

There are many authors who have conducted researches and established measure characteristics of motor tests. Measure characteristics are constantly an actual issue for research. In recent years, the measure characteristics of motor tests have become a subject of particular interest in the works of Mirkov et al. (2011); Peric et al. (2012).

The subject of study in this research are measuring characteristics of applied motor tests of assessing the movement frequency. This research was conducted with the aim of establishing and comparing the measure characteristics of the used motor tests of movement frequencies with 11-year-old students from Macedonia and Kosovo.

Methods

The sample of respondents consists of 180 male students at the age of 11 (100 from Macedonia and 80 from Kosovo). They were tested with three composite motor tests to assess the movement frequency: hand tapping (HT), leg tapping (LT) and leg tapping of wall (TW).

For the obtained data there calculated: basic descriptive parameters, factor analyse, Cronbach α coefficient of generalisability and Spearman-Brown's coefficient of reliability (Vincent, 2005).

Results

According to the basic statistic parameters (Table 1), pupils from Macedonia and Kosovo have achieved many similar results.

Table 1. Basic statistic parameters

Macedonia (N=100)		Tests/Item	Kosovo (N=80)	
Mean	Std. Dev.		Mean	Std. Dev.
25.61	3.58	HT1	26,60	4,172
25.50	3.23	HT2	26,66	3,507
25.45	3.29	HT3	26,78	3,468
16.77	1.85	LT1	17,53	1,449
17.35	1.59	LT2	17,70	1,409
17.50	1.45	LT3	17,70	1,363
15.69	3.43	TW1	15,71	3,402
16.32	3.72	TW2	16,26	3,492
16.77	3.60	TW3	16,60	3,546

HT1 - hand tapping, first item; LT1 - leg tapping, first item and TW1 - leg tapping of wall, first item.

According to the obtained results related to the validity of tests (Table 2), with the pupils from Macedonia the highest validity present test – hand tapping (HT), and with pupils from Kosovo – leg tapping of wall (TW).

All of the three motor tests bear the characteristics of satisfactory validity. Their items have same subject of measure.

In each case of factor analysis a singular factor (principal component analysis) is isolated.

Table 2. Factor validity of the tests

Macedonia (N=100)		Tests/Item	Kosovo (N=80)	
Factor 1	h^2		Factor 1	h^2
.96	.92	HT1	.93	.86
.97	.93	HT2	.94	.89
.96	.92	HT3	.89	.79
$\lambda=2.77$	%=92.21		$\lambda=2.53$	%=84.22
.84	.71	LT1	.87	.76
.92	.84	LT2	.92	.85
.90	.81	LT3	.89	.79
$\lambda=2.36$	%=78.79		$\lambda=2.39$	%=78.72
.88	.78	TW1	.92	.84
.94	.89	TW2	.95	.91
.92	.85	TW3	.94	.88
$\lambda=2.52$	%=84.02		$\lambda=2.63$	%=87.80

N – number of entities; Factor 1 – isolated factor; h^2 - communality; λ – value of first isolated factor; % - percent.

According to the established coefficients of reliability (Table 3), it is noticed that they are very high with the pupils of both countries. Nevertheless, they are slightly higher with Macedonian pupils.

Table 3. Coefficients of reliability

Macedonia (N=100)		Tests	Kosovo (N=80)	
Cronbach α	SB		Cronbach α	SB
.957	.958	HT	.902	.906
.856	.865	LT	.872	.872
.905	.905	TW	.930	.930

Cronbach α - Cronbach alfa coefficient of generalisability; SB - Spearman-Brown's coefficient of reliability.

On the based of the received results, it is obvious that regarding the three tests satisfactory measure characteristics are established (validity and reliability).

Discussion

On the base of the obtained results in the research, the following conclusions are reached:

1. The applied motor tests for both Macedonian and Kosovo pupils have same subject of measure – movement frequency.
2. About the three applied tests for both groups of pupils (from Macedonia and Kosovo) there is established a high level of validity and reliability.
3. We recommend the applied tests to be used for assessing the motoric ability of movement frequency with young people in Macedonian and Kosovo.

In kinesiology, by using motor tests, we indirectly form a concept about the motor abilities of the respondents. That is why; it is of great importance to use tests that have satisfactory measure characteristics.

The used tests are recommended for application in assessing motor abilities – movement frequency. The final results correspond to a great extent with the researches of Metikoš et al, (1989), Georgiev (1996, 2007), Pireva (2013) and other.

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Introduction: The tests of good measure characteristics are a multiple matter of interest. They can be property used in the work of selecting young athletes as well as programming the physical activities and giving marks in classes. There are many authors who have conducted researches and established measure characteristics of motor tests. Measure characteristics are constantly an actual issue for research. This research was conducted with the aim of establishing and comparing the measure characteristics of the used motor tests of movement frequencies with 11-year-old students from Macedonia and Kosovo. Methods: The sample of respondents consists of 180 male students at the age of 11 (100 from Macedonia and 80 from Kosovo). They were tested with three composite motor tests to assess the movement frequency. For the obtained data there calculated: basic descriptive parameters, Pearson coefficient of correlation, factor analyse, Cronbach α and Spearman-Brown's coefficients (Vincent, 2005). Results: On the based of the received results, it is obvious that regarding the three tests satisfactory measure characteristics are established (validity and reliability). Discussion: In kinesiology, by using motor tests, we indirectly form a concept about the motor abilities of the respondents. That is why, it is of great importance to use tests that have satisfactory measure characteristics. The used tests are recommended for application in assessing motor abilities' movement frequency. The final results correspond to a great extent with the researches of Metikos et al, (1989), Georgiev (1996, 2007), Pireva (2013) and other. References: Georgiev G (1996). Definiranje na stepenot na faktorskata validnost, relijabilnost i drugi merni karakteristiki vo biomotorniот prostor kaj učenicite od dvata pola od 11-godišna возраст. (Magisterski trud), Univerzitet "Sv. Kiril i Metodij", Fakultet za fizička kultura, Skopje. Georgiev G (2007). Sport i nauka, 5, 224-30. Metikos D, Prot F, Hofman E, Pintar S, Oreb G (1989). Mjerenje bazicnih motorickih dimenzija sportasa. Fakultet za fizičku kulturu Sveucilicta u Zagrebu, Zagreb. Pireva A (2013). Merni karakteristiki, normativi i standardi za ocenuvanje na motorniот status na mladite. (Doktorska disertacija), Univerzitet "Sv. Kiril i Metodij", Fakultet za fizička kultura, Skopje. Vincent JW (2005). Statistics in kinesiology (3rd ed.). Human Kinetics, Champaign.