

ESTIMATING MOTORIC ABILITIES WITH YOUNG PEOPLE

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Abstract

The study was conducted on a sample of 80 pupils at the age of 11. Six motoric tests were applied for defining hypothetical motoric dimensions. They are the tests that were found as sufficient: validity, reliability, sensibility, practical and economical effects. Basic goal of the research was to establish initial criteria and norms for numerical estimation of motoric abilities with pupils in the school subject of Physical and Health Education.

Key words: pupils, numerical estimation, norms, standards, motoric abilities, motoric tests, percentages.

Introduction

Talking about estimation at school in the subject of Physical Education, we mainly mean estimating the achievements of school children (Findak, 1999). At primary school estimation is numerical: the marks vary from 1 to 5. At that, mark 1 stands for "insufficient"; mark 2 - "sufficient"; mark 3 - "good"; mark 4 - "very good"; mark 5 - "excellent" results (Strong et al., 2005; Mood, Jackson & Morrow, 2007). The estimation criterion denotes the level of acquiring the elements of collective and individual sports activities (Milošević, 2013). The main reason for conducting the present study was to establish initial norms and criteria for measuring the motoric abilities of school children using motoric tests.

Methods

The study was conducted on a sample of 80 school boys at V-th grade (11-year old) from three primary schools in Prishtina: PS "Ilirija", PS "Faik Konica" and PS "Hasan Prishtina". The tested sample underwent 18 tests in total - up to 3 tests for each of the following motoric abilities were applied: frequency of movement, flexibility, explosive power, repetitive power, coordination and balance (Metikoš et al., 1989). The measure characteristics for the applied tests were established and, with regard to further processing, only 6 motoric tests are considered - one for each hypothetical motoric factor (Pireva, 2013).

The motoric tests are:

1. foot tapping (FT) - for frequency of movement;
2. forward bend on a bench (FBB) - for flexibility;
3. standing broad jump (SBJ) - for explosive power;
4. lifting of the body for 30 seconds (LB30) - for repetitive power;
5. the eight with bow (EWB) - for coordination; and
6. standing on two foot along the width of the bench for equilibrium with open eyes (S2F) - for balance.

These were selected as tests that demonstrate best measure characteristics (validity, reliability, representativeness, and practical and economy effects). For the further processing of motoric tests statistic criterion is used. The ground of that criterion is the principle of possibility, which does not imply a priori norms or standards of estimation. The critical value for achieving a sufficient mark is that norm on the base of which school children would achieve the minimal positive result (Mikołajec & Rzepka, 2007). Having in mind all the range of norms, standards, criteria and the regulation for forming estimation in Kosovo, a numerical scale of marks from 1 to 5 is used (Thomas et al., 2007).

The percentage value scale is used to define achievements and results, where as a measure of digression is considered the standard deviation. The complete statistical processing of data is handled by statistical program IBM SPSS Statistics, Version 20.

Results

Table 1 presents the basic descriptive parameters for the used six motoric tests. For each of the applied tests there are presented: Mean - arithmetical mean, StdDev - standard deviation, Min - minimal values, Max - maximal values, Skew - skewness, and Kurt - kurtosis. According to skewness value, there is noticed a normal result asymmetry. According to kurtosis values, it is noticed that the tested sample of children achieved relatively homogenous results within the six motoric tests.

Table 1. Basic descriptive statistic parameters

Variables	Mean	StdDev	Min	Max	Skew	Kurt
FT	17.53	1.45	15	21	.40	-.44
FBB	35.35	6.22	18	48	-.26	-.34
FBJ	1.42	.21	.88	1.94	.05	-.24
LB30	10.70	2.43	6	16	.08	-.66
EWB	12.39	1.12	10.14	15.17	.28	-.36
S2F	1.59	.67	.30	3.80	.76	.53

Legend: Mean – arithmetical mean, StdDev – standard deviation, Min – minimal values, Max – maximal values, Skew – skewness, Kurt – kurtosis, FT – foot tapping, FBB – forward bend on a bench, FBJ – standing broad jump, LB30 – lifting of the body for 30 seconds, EWB – the eight with bow, and S2F – standing on two foot along the width of the bench for equilibrium with open eyes.

Table 2 present the initial norms for numerical estimation from 1 to 5, with regard to pupils' achievements within each test individually, according to its hypothetical function. Thus, for example, the first test foot tapping (FT) – for frequency of movement, has a range of results that match the following marks: result under 15 repetitions equals mark "1"; result 15 – mark "2"; result from 16 to 17 – mark "3"; result from 18 to 20 – mark "4"; and result over 20 – mark "5".

For the second test forward bend on a bench (FBB) – for flexibility, has a range of results that match the following marks: result under 24 repetitions equals mark "1"; result from 24 to 30 – mark "2"; result from 31 to 39 – mark "3"; result from 40 to 46 – mark "4"; and result over 46 – mark "5".

For the third test standing broad jump (SBJ) – for explosive power, has a range of results that match the following marks: result under 1.07 meters equals mark "1"; result from 1.07 to 1.26 – mark "2"; result from 1.27 to 1.58 – mark "3"; result from 1.59 to 1.85 – mark "4"; and result over 1.85 – mark "5".

For the fourth test lifting of the body for 30 seconds (LB30) – for repetitive power, has a range of results that match the following marks: result under 6 repetitions equals mark "1"; result 7 to 8 – mark "2"; result from 9 to 11 – mark "3"; result from 12 to 15 – mark "4"; and result over 15 – mark "5".

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Table 2. Percentiles norms and numerical evaluation of the treated motoric tests

Variables	Grade	Grade	Grade	Grade	Grade
FT	15	15	16-17	18-20	20
FBB	24	24-30	31-39	40-46	46
FBJ	1.07	1.07-	1.27-	1.59-	1.85
LB30	6	7-8	9-11	12-15	15
EWB	14.88	13.16-	11.55-	10.46-	10.46
S2F	.34	.34-	1.10-	2.10-	3.00

For the fifth test the eight with bow (EWB) – for coordination, has a range of results that match the following marks: result under 14.88 seconds equals mark "1"; result 13.16 to 14.87 – mark "2"; result from 11.55 to 13.15 – mark "3"; result from 10.46 to 11.54 – mark "4"; and result over 10.46 – mark "5".

For the sixth test standing on two foot along the width of the bench for equilibrium with open eyes (S2F) – for balance, has a range of results that match the following marks: result under .34 seconds equals mark "1"; result .34 to 1.09 – mark "2"; result from 1.10 to 2.09 – mark "3"; result from 2.10 to 2.99 – mark "4"; and result over 3.00 – mark "5".

Conclusion

Grounding on the study conducted on a sample of 80 pupils at fifth grade (11-year-old), that are tested with six motoric tests, there are established the initial norms of numerical estimation from "1" to "5". The mentioned can be applied in estimating the hypothetical motoric abilities: frequency of movement, flexibility, explosive power, repetitive power, coordination and balance. A recommendation is that, in future, it would be useful for the Republic of Kosovo to assess norms for estimating motoric abilities of a larger number of school children at different ages of both genders.

PROCJENA MOTORIČKIH SPOSOBNOSTI MLADIH LJUDI

Sažetak

Istraživanje je provedeno na uzorku od 80 učenika dobi od 11 godina. Šest motoričkih testova primijenjeno je u svrhu definiranja hipotetskih motoričkih dimenzija. Testovi koji su se pokazali dovoljnima su: opravdanost, pouzdanost, senzibilnost, praktični i ekonomski efekti. Osnovni cilj istraživanja bio je utvrditi početne kriterije i norme za numeričku procjenu motoričkih sposobnosti kod učenika školskog predmeta Tjelesni i zdravstveni odgoj.

Ključne riječi: učenici, numerička procjena, norme, standardi, motorika, sposobnosti, testovi, postotci.

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