Schoolchildren's physical education competency versus physical fitness self-rates: survey and analysis

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Abstract

Objective of the study was to survey the schoolchildren's reported physical education competency versus their physical fitness self-rates and run a correlation analysis.

Methods and structure of the study. We run a questionnaire survey of the 11-year-old schoolchildren (n= 485) under the ongoing international Health and Behavior of Schoolchildren (HBSC) Research Project and grouped by their physical education competency self-rates into reportedly competent Group 1 and incompetent Group 2. Then we processed the group questionnaire survey data by a statistical toolkit $\chi 2$ criterion and made a physical education competency versus physical fitness correlation analysis to find correlations of the reported physical education competency with the physical fitness elements.

Results and conclusion. The survey and analysis of the schoolchildren's reported physical education competency versus their physical fitness self-rates found them significantly correlated. The 11-year-olds with excellent and good physical education competency and physical fitness self-rates demonstrated significantly higher physical education competency / physical fitness correlations in virtually every physical fitness element than their lower self-rated peers.

Keywords: *physical education competency, self-rate, physical fitness, schoolchildren.*

Background. Modern school physical education research is designed to facilitate the schoolchildren's physical, emotional, intellectual, social and personality progress in the mobilizing historical, general cultural contexts with healthy values and priorities [8]; with the physical education competency component apparently contributing to the individual general culture, motor progress, healthy lifestyle and confidence. The national and international physical education competency research communities have always been interested in the school physical education competency related issues. Thus, V.K. Balsevich (2008) formed basics of the sports-driven physical education system making a special emphasis on the physical education knowledgebase within the relevant general cultural and social contexts [1]. The ongoing international Health and Behavior of Schoolchildren (HBSC) Research Project surveys their commitment for physical activity to facilitate school physical education technologies and physically activate school populations, with a special emphasis on the physical education competency rating component [7]. The studies found the schoolchildren's health conceptions having multiple components with the relevant physical, psychological, social and intellectual progress factors of influence [4] that need to be detailed by further special analyses. It should be mentioned in this context that the foreign studies of the school physical education competency correlations with the physical activity / physical fitness are still rather fragmental [2, 3, 5, 6], and this was the reason for us to explore them in herein.

Objective of the study was to survey the schoolchildren's reported physical education competency

versus their physical fitness self-rates and run a correlation analysis.

Methods and structure of the study. We formed an empirical basis for the study by a questionnaire survey of the 11-year-old school population of both sexes (n= 485) under the ongoing international Health and Behavior of Schoolchildren (HBSC) Research Project. The sample was grouped by their physical education competency self-rates into reportedly competent Group 1 and incompetent Group 2. Their physical fitness was ranked by the question "What are your motor skills on a 5-point scale?" (very poor to excellent rated by 1 to 5 points, respectively) with the following elements: V5301 "muscle strength"; V5302 "reaction speed"; V5303 "physical endurance"; V5304 "physical flexibility"; and V5305 "movement coordination".

Results and discussion. Fig. 1 hereunder demonstrates the individual physical fitness self-rates depending on the reported physical education competency. The reportedly competent Group 1 self-rated its physical fitness significantly higher ($p<0.05$) than incompetent Group 2. Further analysis of the key physical fitness elements (strength, speed, endurance, flexibility and coordination) showed the both groups rating speed higher than flexibility, with the Group 2 and Group 2 physical fitness averages estimated and 4.2 and 3.2 points, respectively.

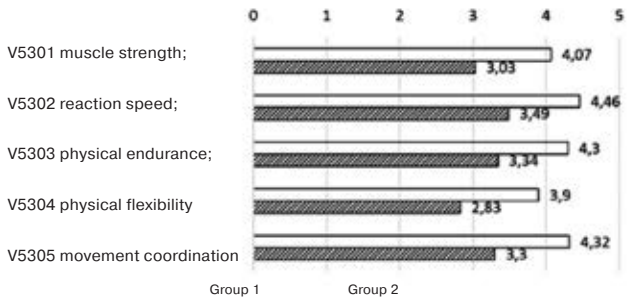

Figure 1. *Averaged group physical fitness self-rates, points, p<0.05*

Figure 2 gives analysis of the reportedly "excellent" (5 points) and "good" (4 points) motor skills in the strength, speed, endurance, flexibility and coordination domains. Group 1 and Group 2 self-rated their motor skills excellent and good 52.5% to 90.8% and 28.2% to 51.6%, respectively.

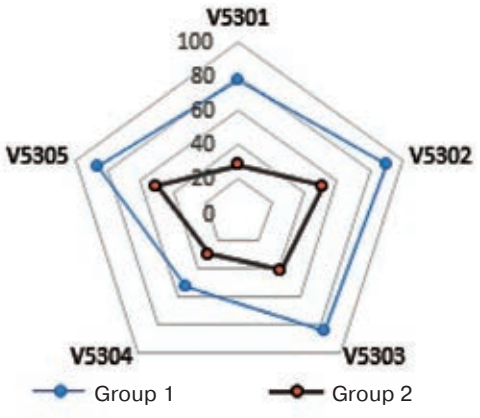

Figure 2. *Group 'excellent' and 'good' motor skills self-rates, p<0.05*

Group 1 Group 2

Group physical fitness data correlation analysis found higher correlations of the reported physical education competency with physical fitness in Group 1 versus Group 2, with the average bilateral correlations significant ($p<0.01$, $r = 0.318$ to 0.476) in the both groups. Group 1 was tested with higher significant direct correlations than Group 2 (9 and 5, respectively). We found no significant correlations of:

– Flexibility versus coordination in Group 1; and

– Strength versus flexibility; strength versus coordination; speed versus flexibility; flexibility versus coordination; and endurance versus coordination in Group 2.

The close and significant correlations give fair grounds to conclude that the physical education competency and physical fitness self-rates are interdependent in the causes and effects, with this result supporting our prior assumption. In other words, the 11-year-olds with excellent and good physical education competency and physical fitness self-rates demonstrated significantly higher physical education competency / physical fitness correlations in virtually every physical fitness element than their lower self-rated peers. This finding is consistent with the prior study reports [2, 3, 5, 6] that found the schoolchildren's self-reported physical education competences being correlated with the physical activity / physical fitness self-rates.

Conclusion. The survey and analysis of the schoolchildren's reported physical education competency versus their physical fitness self-rates found them significantly correlated. It gives us grounds to recommend that the school physical education

teaching community should give due priority to special physical progress encouragement methods and tools customizable to the age-specific physical education competency and knowledgebase.

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