

PSYCHOMETRIC PROPERTIES OF STANDARDIZED AND MODIFIED TESTS FOR THE ESTIMATION OF STATIC STRENGTH OF PRESCHOOL CHILDREN

Abstract

The aim of this study was to examine the psychometric characteristics of the bent arm hang test which is performed in three different positions: at the vertical angle under 90°, angle of the body of 45° and 20° in relation to the ground. Some studies point out the poor psychometric characteristics of the classic bent arm hang test. Therefore, it will be examined in this paper which of the three proposed tests is appropriate, reliable and valid for checking the static strength of arms and shoulders among children of preschool age on the same sample of children. 70 children participated in the study (34 girls and 36 boys), aged 5.5 to 6.5. In addition to the standardized bent arm hang test under 90°, two more tests were constructed: bent arm hang test under 45°, with leg support at an angle of 45° in relation to the ground and the bent arm hang test under 20° with leg support at an angle of 20° in relation to the ground. Each test was repeated three times with 7 days between repetitions in order to determine their reliability, validity and applicability in working with preschool children. Based on the obtained results it was determined that test of 90° is the only reliable and suitable test for the work with preschool children, but only after the children have been well acquainted with the position required for the measurement. Furthermore, it was concluded that the test under 45° and test under 20° are inapplicable in work until the systematic error has been eliminated. Also, it was determined that there is no gender difference in performance except in the test under 90°. For quality assessment of muscle strength of preschoolers it is necessary to continue to research the psychometric properties of the measurement instruments.

Keywords: *bent arm hang, static strength, muscular endurance, preschool children*
