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Practical Assessment of Fundamental Motor Skills in Primary Education: Valid and Reliable Motor Skill Instrument Test (MSIT) Approach for Early Elementary Students

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Background: Motor skill development during early elementary school years is crucial for children's physical and cognitive growth. Despite its importance, there is a lack of standardized, validated instruments specifically designed for assessing motor skills in first and second-grade students.

Objectives: This study aims to evaluate the validity and reliability of a newly developed Motor Skill Instrument Test (MSIT) for first and second-grade elementary school students.

Methods: The MSIT was constructed to measure fundamental motor skills appropriate for early elementary students. The test consists of 9 motor skill items. The instrument was administered to a sample of 54 students from first and second grade at an elementary school in Surabaya, Indonesia. Each student completed all test items under standardized conditions. To evaluate the instrument's validity, item-total correlations were calculated using Pearson's correlation via SPSS 25.0. Items with a significance level of $p < 0.05$ were considered valid. The internal consistency reliability of the instrument was measured using Cronbach's Alpha, with values above 0.27 (r table of product moment critical score).

Results: The analysis indicated that 8 out of 9 items demonstrated statistically significant item-total correlations, confirming their construct validity ($p < 0.05$). The valid items included tests of balance, locomotor, and object control skills. The overall reliability of the MSIT, as indicated by Cronbach's Alpha, was 0.38 (> 0.27).

Conclusion: The findings support the MSIT as a psychometrically sound tool for assessing motor development in young children.

Keywords: Early elementary school, motor skill assessment, instrument validity, instrument reliability, physical education

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