ABSTRACT

Background

Movement Assessment Battery for Children (MABC) has been recognized as one of the most widely used diagnostic instruments regarding developmental coordination disorders. The purpose of the present study was to investigate the construct validity of the Movement Assessment Battery for Children in Greece, in a sample of elementary school aged children.

Methods

Two hundred and twenty children, aged 9-12 years old, were tracked in the study. The children were randomly recruited from 32 public schools that belonged in the geographical area of Northern Greece. For statistical analysis, the principal factor analysis was used.

Results

The analysis regarding ages 9 and 10 produced five factors accounted for 77.38% of the total score variance. All Pearson correlation coefficients between single-item scores and total scores were statistically significant. The Cohen’s effect size indexes were medium only for two out of the eleven variables and large for the nine variables. The analysis regarding ages 11 and 12 produced four factors accounted for 72.21% of the total score variance. All Pearson correlation coefficients between single-item scores and total scores were statistically significant. The large number of the items that correlated significantly with the total score suggests acceptable internal consistency of the MABC. This is also supported by the majority of the tests showing large (19 out of 21) and medium effect sizes (2 out of 21).

Conclusions

MABC seems to be valid for use in the Greek elementary school environment, based on the construct validity measured in our study. Our results confirm the usefulness of the test MABC and are in accordance with the results of similar international studies.

Keywords:
developmental coordination disorder, child development disorders, movement, primary school

INTRODUCTION

The Movement Assessment Battery for Children (MABC) identifies and evaluates the movement problems that can determine a child’s participation and social adjustment at school and it can be used for planning programmes for remediation and management. MABC is organized into three motor domains or performance areas, covering manual dexterity, ball skills, static balance and dynamic balance. It covers an age range from 4 to 12 years. MABC has been translated into six European languages and has been implemented in many countries worldwide, such as Sweden, China, Belgium, Japan, UK, Thailand, The Netherlands, as well as in Greece. Despite the fact that MABC has been found to be useable among different populations with various cultural and social characteristics, the demand for validation prior to its use in a specific population is still present. Validity refers to the appropriateness, meaningfulness, and usefulness of the specific inferences made from test scores. According to Cronbach and Meehl there are four types of validation: predictive validity, concurrent validity, content validity, and construct validity.

With the aim to test the validity of MABC test in their countries, many researchers have investigated concurrent validity of the MABC. Tan, Parker & Larkin investigated the concurrent validity and discrimination accuracy of the Bruininks-Oseretsky Test of Motor Proficiency-Short Form (BOTMP-SF), the McCarron Assessment of Neuromuscular Development (MAND) for identifying children with and without motor impairment and MABC. Performance rankings for the motor impairment /non-motor impairment children on BOTMP-SF and MAND tests were highly correlated (r= .86); however, only 35% of motor impairment cases were classified alike and 71% of cases were agreed on, overall. Comparing each test with MABC, discrimination statistics revealed MAND was the more accurate discriminator of motor impairment, with higher sensitivity and negative predictive values than the BOTMP-SF.

In a similar study, Croce, Horvat and McCarthy concluded that the concurrent validity between the MABC and the Bruininks-Oseretsky Test was good (range of Pearson r values was from .60 to .90). Van Waelvelde and colleagues confirmed...