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DETECTION OF MOVEMENT DIFFICULTIES THROUGH ASSESSMENT OF THE UPPER LIMB COORDINATION

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ABSTRACT

The purpose of the present study was to investigate whether the BOT-2 (Bruininks & Bruininks 2005) subtests of Manual Dexterity and Upper Limb Coordination can be used to detect motor difficulties in preschool and first-school age children. Fifty three children participated in the study (26 boys and 27 girls), aged 51-87 months old (MO = 67.72 months) from Athens attending a private school, in the area of Palaio Faliro. Firstly, the children were sorted into Motor competence (MC) groups (very low, low, medium, high and very high), as assessed by the Physical Education teacher for the students of A Primary and Classroom teachers for pre-school children. Then, all children were evaluated with the Manual Dexterity and the Upper Limb Coordination subtest of the BOT-2 (Bruininks & Bruininks, 2005). Next, we examined the association between the scores of the participants and their characteristics such as sex, age, and MC. From the covariance analyses that were applied, it was revealed that age was statistically significantly associated with children's performance, while gender was not. Also, statistically significant differences were found between the performance of children with different MC level both in the total subtest scores and in several individual items. In particular, the group with the high MC presented the highest total score for both Manual Dexterity (30.63 ± 4.54) and Upper Limb Coordination subtest (32.31 ± 4.60), compared to the group of moderate MC (Manual Dexterity = 23.07 ± 5.94, Upper Limb Coordination = 21.93 ± 7.45) and low MC (Manual Dexterity = 20.14 ± 4.84, Upper Limb Coordination = 15.86 ± 8.23). Regarding individual items, in manual dexterity subtest, statistically significant MC differences were identified only on “transferring coins” item. In the upper limb coordination subtest, statistically significant differences were found in items such as catching a ball with both hands, throwing and holding a ball with one hand, dribbling with one hand and throwing a ball at a target. The findings of the present study showed that the Manual Dexterity and

Upper Limb Coordination subtest scores of BOT-2 (Bruininks & Bruininks, 2005) can be applied to detect movement difficulties in preschool and first-school age children, however, this is not the case for some individual items.

Keywords: detection, BOT-2, manual dexterity, upper limb coordination, movement difficulties

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