Using Tests of Balance to Predict Sub-Optimal Performance on Tests of Validity in Neuropsychological Testing

Lima E, Hartline K, Pawlenko N, Patel A, Riopelle A, Hamilton A

Objective: The current study aims to assess whether suboptimal performance on standardized measures of validity is predicted by performance on measures of balance. Method: Participants (N = 265) were children and adolescents who were referred to Children’s Hospital Los Angeles (CHLA) for neuropsychological testing to assist with post-concussional symptoms. All participants were given a complete neuropsychological screening battery, which included administration of Green’s Medical Symptom Validity Test (MSVT), the Test of Memory Malingering (TOMM), and the modified Balance Error Scoring System (BESS). Results: Simple Linear Regression was conducted in SPSS 20.0 (IBM, 2011). Results indicated that scores on the BESS total score explained a significant amount of the variance on both the MSVT Delayed Recognition (R2 = .237) and the TOMM (R2 = .585). Specifically, as scores BESS increase by one point, scores on the MSVT Delayed Recognition increase by .487, 95% CI [.221, 1.731] (p < .05). Additionally, as scores on the BESS increase by one point, scores on the TOMM increase by .765, 95% CI [.170, .981] (p < .01). Conclusion: The results of the study support our hypothesis that sub-optimal performance on the BESS significantly predict aspects of tests of validity. These results are key as it represents the beginning phases of more quickly identify and address issues, which may be causing sub-optimal performance on neuropsychological tests.