NEUROLOGICAL AND NEUROPSYCHIATRIC DISORDERS: TRAUMATIC BRAIN INJURY

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Constructs Measured by the BRIEF-A after Mild Traumatic Brain Injury

Donders J, Strong C

Objective: To determine the latent structure of the Behavior Rating Inventory of Executive Function–Adult (BRIEF-A) in persons with mild traumatic brain injury (mTBI). Method: 100 persons with mTBI (i.e., time to follow commands < 30 min, post-traumatic amnesia < 24 hours, and Glasgow Coma Scale > 12) and their informants completed the BRIEF–A within 1–12 months after injury. Maximum-likelihood exploratory factor analysis was used to determine the relative fit of 1, 2, and 3-factor models. It was specified a priori that lower ratio of chi-square to degrees of freedom (preferably < 2) and higher values of the Tucker-Lewis index (preferably > 0.95) would be indicative of better fit. Chi-square difference tests were also used to compare nested models. Results: A 3-factor model was supported for the Self Report version of the BRIEF–A, including Metacognition, Behavioral Regulation and Emotional Regulation factors. This was consistent with recent research in a large sample of healthy adults (Roth et al., 2013). However, for the Informant Report version of the BRIEF–A, a 3-factor model failed to converge. Instead, a 2-factor model (Metacognition and Behavioral Regulation) fit those data well. The variable most consistently associated with higher Self Report BRIEF–A Behavioral Regulation and Emotional Regulation factor scores was a premorbid psychiatric history. Conclusion: In persons with mTBI, the Self Report version of the BRIEF–A is best interpreted along 3 latent constructs, whereas a traditional 2-factor interpretation is appropriate for the Informant Report version. Premorbid psychiatric dysfunction is a prominent predictor of post-injury BRIEF–A ratings.