

# Quick Review of Model System Research

## Factor Analysis of the Everyday Memory Questionnaire in Persons with Traumatic Brain Injury [[1]](#footnote-2)

### What is the study about?

Memory impairment is common for individuals with traumatic brain injuries (TBI). The Everyday Memory Questionnaire (EMQ) was designed to measure everyday memory failures in individuals with TBI. Though the EMQ has demonstrated clinical effectiveness through distinguishing between individuals with TBI and orthopedic controls, its factor structure in a large sample of individuals with TBI has yet to be determined. The aim of this study is to establish a factor structure for the EMQ that will help evaluate both the impact of interventions on everyday memory functions.

### Who participated in the study?

### This study was a secondary analysis of data from two randomized controls trials (RCT). Participants from the first study were ages 18-65 with complicated mild, moderate or severe TBI as determined by the Glasgow Coma Scale (GCS), and had significant others willing to participate in the study. Participants from the second study were ages 18-60 years, were at least 6 months post-injury with mild, moderate, or severe TBI, and had a caregiver willing to participate in the study. Both studies identified participants through electronic systems for documenting admissions and discharges at two Level One trauma centers.

### How was the study conducted?

### Of the 28 item EMQ that was administered for the parent RCT studies, 23 items were included in the factor analysis. Five items were excluded because their content was not consistent with TBI. A five item Likert scale was used to rate each of the items. The questions on the Likert scale consisted of: 1) not very often, about once a month; 2) about once a week; 3) several days a week, but not every day; 4) about once a day; 5) more than once a day. The EMQ factor scores were validated by measuring them against an objective test of verbal learning. Based on initial scree plot analysis an exploratory three-factor model was employed to analyze the data.

### What did the study find?

The study found three factors representing: 1) general everyday memory, 2) conversational memory, and 3) spatial/action memory. The conversational memory and spatial/action memory factors were each predictive of scores on an objective verbal learning measure. The general everyday memory factor was not predictive of verbal learning, and thus appears to assess something different. The findings indicate that there is value to having separate factor scores for assessment of everyday memory function, and that questions about general everyday memory provide information that is different from objective memory measures. These factors may be useful in clinical trials targeting memory.

1Sander, A.M., Clark, A.N., van Veldhoven, L.M., Hanks, R., Hart, T., Novelo, L.L., Ngan, E., & Arciniegas, D.B. (2018). Factor analysis of the everyday memory questionnaire in persons with traumatic brain injury. *The Clinical Neuropsychologist,* 32:3, 495-509.

1. [↑](#footnote-ref-2)