

# ` Quick Review of Model System Research

## Patterns of Cognitive Test Scores and Symptom Complaints in Persons with TBI Who Failed Performance Validity Testing

### What is the study about?

### It is important for researchers and health providers to be assured that performance on tests is valid and hence, reliable. This is particularly relevant for people with traumatic brain injury (TBI) and possible problems with memory, thinking or processing information. Sometimes, emotional distress, motivation, and difficulty thinking (cognitive impairment) interfere with providing valid results. This study aims to identify distinct subgroups of individuals who may have failed to provide a valid performance. There are ways to test this. Performance validity testing (PVT) is used by practitioners to determine whether a patient’s test performance validly reflects his/her degree of impairment or if other, possibly unknown, factors affect the patient’s performance. PVT can provide use information that can facilitate development of an appropriate treatment plan.

### What did the study find?

This study identified three distinct subgroups of individuals who failed performance validity testing. Subgroup 1 had impaired memory and no additional testing abnormalities. Subgroup 2 had impaired memory and processing speed, and concern about cognition function. Subgroup 3 showed impairment on all cognitive tests and had excess complaints in multiple areas.

### Who participated in the study?

Individuals with TBI who failed performance validity testing (n=143) who were attending rehabilitation centers in Houston, Birmingham, and Detroit in the USA, and Melbourne, Australia.

### How was the study conducted?

This study was a secondary analysis of a dataset originally developed for a study that identified dimensions of objective cognitive test scores and self-reported cognitive, emotional, and physical symptoms as well as environmental supports.

### How can people use the results?

Individuals with TBI and their families can use the results of this study to better understand the importance of identifying various factors that affect performance on cognitive tests and symptom questionnaires.. The researchers suggest, based on their clinical experience and these findings that subgroup 1 might best be served by treatments offered to the general population. These could include memory and organizational strategies using smart phone or other technologies as well as a focus on regular exercise, proper diet, and sleep hygiene depending on the patient’s complaints. The emphasis should be on self-management of perceived impairments and complaints. For subgroup 2, the initial focus of intervention could be treating emotional distress using education or psychotherapy and working toward realistic, value-oriented goals. Subgroup 3 would need assistance in engaging in interventions through strong relationships with healthcare providers and social networks. Practitioners can use the results of this study to better interpret patient performance validity testing results.

### Reference

Sherer, M., Sander, A.M., Ponsford, J., Vos, L., Poritz, J.M.P., Ngan, E., & Novelo, L.L. (2020). Patterns of cognitive test scores and symptom complaints in persons with TBI who failed performance validity testing. *Journal of International Neuropsychological Society,* 1-7. doi:10.1017/S1355617720000351

**Disclaimer**

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