

Differences in MMPI-2 Scores for Individuals with and without Acquired Brain Injuries

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Introduction

Studies have localized brain injuries to specific speech and motor deficits. Few studies have investigated the psychological and personality impacts of brain injuries.

The effects of a brain injury largely depend on where in the brain the injury occurred, the extent of the damage, as well as other individualized factors. Many individuals post-injury report cognitive and emotional difficulties. Symptoms may include changes in mood and outlook on life, increased irritability, confusion, anger, anxiety, and depression. These changes may be due to the pathophysiological and chemical changes that occur following the injury. Whether these emotional difficulties are transient or are reflective of true personality changes has yet to be confirmed.

The aim of this study is to compare individuals with a history of an acquired brain injury to those without a history of acquired brain injury on the Clinical Scales of the MMPI-2.

Methodology

A retrospective study was conducted utilizing a deidentified outpatient clinical database. Participants were adults seeking neuropsychological testing from a community-based outpatient clinic. Those with comorbid diagnoses were included. Individuals were categorized as those with and without a history of an acquired brain injury. See Table 1 for demographic characteristics. Groups were significantly different in age, education, and gender.

Participants completed a comprehensive neuropsychological battery which included the MMPI-2. The MMPI-2 is an objective measure of personality where individuals answer true/false statements.

A series of ANCOVAs were used to test differences between groups on the endorsement of symptoms on the MMPI-2 Clinical scales.

| Demographic Characteristics | Individuals with a History of an Acquired Brain Injury | Individuals without a History of an Acquired Brain Injury |
|-----------------------------|--|---|
| N | 37 | 377 |
| Mean Age | 41.07 years | 32.69 years |
| Mean Education | 13.05 years | 13.71 years |
| White% | 59.5% | 50.2% |
| Female% | 38.1% | 56.7% |

Results

Of the ten clinical scales on the MMPI-2, only hypomania (Scale 9) was significantly different between the two groups $F(1,412)=7.074, p=.008$ with the group with the acquired brain injuries endorsing more hypomanic symptoms than the non-acquired brain injury group.

No significant differences were found between groups for hypochondriasis (Scale 1), depression (Scale 2), hysteria (Scale 3), psychopathic deviate (Scale 4), masculinity-femininity (Scale 5), paranoia (Scale 6), psychasthenia (Scale 7), or schizophrenia (Scale 8).

Discussion

The non-acquired brain injury group fell within the normal range while the individuals in the acquired brain injury group experienced moderate elevation of hypomania.

This suggests that individuals in the acquired brain injury group may find themselves experiencing restrictions, agitation, and dissatisfaction on their activity level secondary to the brain injury.

Implications for these findings suggest that individuals with acquired brain injuries may benefit from some form of acceptance therapy following the injury as well as continued monitoring of symptoms.

Limitations to this study include lack of specificity to the type, timing since the incident, and location of the acquired brain injury; a limited number of individuals with acquired brain injuries; and lack of diversity within the sample.