



**Acquired
Brain Injury
Network**

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Title:

Memory Performance as a Function of Anxiety for Individuals with Mild Head Injury

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Summary:

Little research has been conducted to examine the chronicity of cognitive and emotional sequelae following mild head injuries (MHI) for which organic damage is less easily verified to be permanent. Since the prefrontal cortex is particularly vulnerable in mild head injuries (e.g. falls, sports injuries) and the ventral-medial prefrontal lobe, in particular, manages emotional responsivity, disruption to this area could result in differential emotional responses (i.e. anxiety). We investigated whether cognitive limitations in memory processing persist as a function of MHI history and its interaction with self-reported anxiety. University students (N = 50) completed neuropsychological assessments of immediate and delayed explicit and visuospatial memory, as well as indices of state and trait anxiety, and demographic information. Manipulations of arousal were also investigated. As expected, correlational analyses indicated that individuals who had not sustained a MHI exhibited poorer performance on memory measures when reporting more anxiety. Contrary to our expectations, individuals with MHI (30 percent of sample) were not disadvantaged as a function of increased anxiety. In fact, individuals with MHI performed optimally when more anxious and performance declined when less anxious. Furthermore, individuals with MHI reported less state anxiety than individuals without MHI. These findings indicate the potential limitations of underarousal associated with ventral-medial disruption and further demonstrate that the neurological and emotional sequelae following a MHI may not be transient. Overall, our results show that sustaining a MHI is predictive of long-term deficits in cognitive functioning, specifically memory performance, and differential emotional reactions.

Outcomes/Objectives:

Cognitive and emotional sequelae of individuals with history of Mild Head Injury