Mild Head Injury: A Predictor of Impulsive Antisocial Behaviour

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Method
Participants
University students (N = 90) participated in neuropsychological testing sessions; 52% incurred a MHI

Measures and Procedure
Standardized neuropsychological tests and self-report questionnaires were administered, including:
- Executive Functioning:
  - Comprehensive Test of Nonverbal Intelligence (CTONI): Pictorial Analogies
  - Wechsler Memory Scale III (WMS-III): Letter-number Sequencing; Mental Control
  - Delis-Kaplan Executive Functioning Scale (DKEFS): Stroop; Trail Making Test
- NEPSY: Auditory Attention and Response Set
- Self-report of a MHI: Demographic Questionnaire

Results
Sex was entered on Step 1; All executive functioning measures on Step 2; MHI status on Step 3

Purpose
To examine whether MHI status is differentially predictive of impulsive antisocial behaviour in university students.

To examine whether measures of executive functioning are predictive of impulsive antisocial behaviour.

Discussion
As expected, men were more antisocial than women in general. Interestingly, executive dysfunction (specifically CTONI) was a significant predictor of Erratic Lifestyle after controlling for Sex, whereas better executive functioning (specifically NEPSY) predicted Interpersonal Manipulation. However, executive functioning did not predict Callous Affect or Antisocial Behaviour. As predicted, MHI status accounted for a significant amount of variance above and beyond sex and executive functioning on only Erratic Lifestyle and Antisocial Behaviour. Therefore, MHI status differentially predicted impulsive antisocial behaviour.

Conclusions
These results mirror previous research findings investigating impulsive antisocial behaviour as a consequence of focal orbitofrontal injury. Executive functioning is negatively correlated with impulsive antisocial behaviour and is positively correlated with instrument antisocial behaviour. Furthermore, individuals with a history of MHI exhibit more antisocial behaviour than matched controls; however, this form of antisocial behaviour is manifested more subtly than more severely injured frontal lobe patients. Moreover, the inability to modulate impulses and to make adaptive decisions has the potential for maladaptive consequences even in high-functioning populations, such as university students. Ultimately, these results indicate that the cognitive and behavioural sequelae following MHI have neural underpinnings that might not necessarily be transient in spite of clinical opinion.

References