

Abstract

Decision-making, accepted to be an important part of executive function, is inherent in all complex human experiences requiring intact brain functioning. Three different types of decision making have been identified: actor-centred, emotion-based and veridical decision-making. All require goal-setting, planning and execution, which are often impaired after sustaining an acquired brain injury (ABI). The Cognitive Reserve Hypothesis (CRH) holds that a larger brain belonging to an individual with a higher IQ and better education will be more resilient to injury. The principal aim of this study was to investigate performance differences in neuropsychological tests of decision-making between individuals with ABI from different socio-economic status (SES). It was hypothesised that ABI would exacerbate differences in decision-making performance between individuals from a higher SES and those from low SES in terms of the CRH.

Participants ($n=25$) had all sustained an ABI. Actor-centred, emotion-based and veridical decision-making were investigated using the Tinker Toy Test (TTT), the Iowa Gambling Task (IGT) and the Berg Card Sorting Task (BCST) respectively. Participants were asked to complete an SES Questionnaire. The independent variables were markers of SES: Race, Level of Education, Quality of Education, and Quality of Medical Care at time of injury.

Differences in quality of education were significant for the BCST, suggesting that a poor quality of education has a negative impact on veridical decision-making after ABI. Poor education (a marker of low SES) does not provide the same buffering effect for insults to the brain in the event of an ABI as does superior education (a marker of high SES).