Categories: Acquired Brain Injury (TBI/Cerebrovascular Injury & Disease - Adult)
Keyword 1: traumatic brain injury
Keyword 2: neurophysiology
Keyword 3: cognitive functioning
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26 Alexithymia Predicts Affect Recognition after Acquired Brain Injury

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Objective: Alexithymia is characterized by difficulty identifying and describing one's emotions. Alexithymia is more prevalent and severe after acquired brain injury (ABI; Fynn et al., 2021). Additionally, studies have shown frequent impairment of affect recognition after ABI (Neumann et. al, 2014). Research examining the relationship between the subjective experience of alexithymia and the objective ability to recognize emotion in others has been limited, especially among individuals with ABI. Some research indicates that alexithymia is more common following traumatic brain injury (TBI) than non-traumatic brain injury such as stroke; however, no previous research has examined the relationship between alexithymia and affect perception comparing adults with TBI and stroke. Accordingly, this study aimed to fill that gap.
Participants and Methods: Participants were 218 adults in three groups: healthy adults (HA; n = 99), TBI (n = 63), and stroke (n = 56). Participants completed a neuropsychological battery that included the Toronto Alexithymia Scale-20 (TAS; Bagby et al., 1994), and a multicultural Face Emotion Perception Test (MFEPT). The MFEPT used images from the Montreal Set of Facial Displays of Emotion (Beaupré et al., 2000) to assess recognition accuracy for anger, sadness, fear, disgust, and neutral expressions. The Recognition Memory Test (RMT; Warrington, 1984) was included to account for variance in facial affect recognition associated with face recognition only.
Results: Analysis of variance indicated a significant difference among the means on TAS ($p < .001$, $\eta 2 = .09$. Tukey post hoc tests indicated lower TAS among HA than Stroke ($d = -0.73$, $p = .001$) and TBI ($d = -0.56$, $p = .002$) groups; however, TBI and Stroke did not differ significantly ($d = -0.15$, $p = .667$). Chi-square tests indicated that the percent of HA with clinically-elevated alexithymia (7.1%) was lower than Stroke (21.4%, $p = .009$) and TBI (25.8%, $p = .001$), who did not differ significantly ($p = .610$). Pearson correlations indicated medium inverse correlations between alexithymia and affect recognition for Stroke ($r = -.39$, $p = .002$) and TBI ($r = -.36$, $p = .002$). For HA, who showed low alexithymia, the relationship was not significant ($r = -.15$, $p = .070$). Examination of the TAS subscales indicated that TAS-Total correlations with MFEPT were driven primarily by Difficulty Identifying Feelings (DIF), as compared to Difficulty Describing Feelings or Externally-oriented Thinking. Partial correlations between TAS-DIF and MFEPT accounting for RMT remained significant for both TBI ($rp = -.23$, $p = .036$) and Stroke ($rp = -.39$ $p = .002$).
Conclusions: Consistent with prior research, alexithymia was more prevalent and severe among adults with TBI and stroke as compared to healthy adults. Adults with TBI and stroke showed similar levels of alexithymia, and the pattern of associations is consistent with the theory that alexithymia disrupts recognition of emotion displayed by others. This link may partly explain the robust findings of diminished and impaired social and interpersonal outcomes after ABI. Future research should test these links directly, to support the development of interventions to maximize social and interpersonal well-being after ABI.

Categories: Acquired Brain Injury (TBI/Cerebrovascular Injury & Disease - Adult)
Keyword 1: stroke
Keyword 2: traumatic brain injury
Keyword 3: affective processing (normal)
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27 Apathy Associated with Cognition in Older Adults with Chronic Moderate to Severe Traumatic Brain Injury

https://doi.org/10.1017/S135561772300231X Published online by Cambridge University Press

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Objective: Apathy, or loss of motivation and interest, is a common sequela of moderate to severe traumatic brain injury (msTBI) and has been associated with frontal lesions and with executive dysfunction in a sample an average of one year post injury (Andersson & Bergdalen, 2002). In older adults sustaining msTBI in particular, the appearance of apathy is more likely to be comorbid with depression when compared to injury in younger adults (Kant et al., 1998). However, studies have consistently shown an important dissociation between apathy and depression, despite overlapping symptoms, with apathy in particular associated with frontal lobe damage (Worthington & Wood, 2018). The present study holds two primary goals. First, to examine the relationship between current apathy ratings and cognition after controlling for ratings of depression and perceived changes in apathy, to account for the unique relationship of injury-related apathy on cognition. Second, to examine the potential variable role of APOE4 carrier status on depression and apathy ratings.
Participants and Methods: 110 older adults with a lifetime history of msTBI (M=9.5 years post-injury) were included as part of a cross-sectional study. Apathy was measured using the Frontal Systems and Behaviors Scale (FrSBe) for both current apathy ratings and perceived change in apathy from pre- to post-injury. Depression was measured using the depression subscale of the Brief Symptom Inventory (BSI). Outcome measures included normed scores for learning (HVLT-R total recall), retention (HVLT-R percent retention), processing speed (Trails A), set-shifting and working memory (Trails B, Digit Span Backwards), and phonemic and category fluency (D-KEFS letter and category fluency). The main independent variable of interest was current apathy ratings. Depression and perceived apathy change were included as control variables for all analyses. Vif scores were calculated for all analyses to ensure that variables were not multicollinear. Finally, we ran an ANOVA to examine the relationship between apathy, depression, and APOE4 carrier status.
Results: When controlling for depression and perceived changes in apathy, current apathy ratings were associated with poorer performance on learning (p=.04, η2=.04), processing speed (p=.001, η2=.10), set-shifting (p=.02, η2=.05), attention (p=.04, η2=.04), phonemic fluency (p=.001, η2=.09), category fluency (p=.001, η2=.10). Current apathy ratings were not associated with retention or working memory. Apathy was significantly associated with depression (p <.001), but was not associated with APOE4 carrier status or the interaction between depression and carrier status.
Conclusions: Despite overlap between depressive symptoms and apathy questionnaires (i.e., loss of interest/pleasure), by controlling for depressive symptoms and perceived changes following injury, we demonstrate the significant independent association of apathy and cognition in an older sample with chronic msTBI. Further, although previous work has shown strong associations between depression and APOE4 carrier status in chronic msTBI samples (Vervoordt et al., 2021), there was no significant relation with apathy directly in our sample, providing further evidence that these are neurobiologically distinct syndromes.

Categories: Acquired Brain Injury (TBI/Cerebrovascular Injury & Disease - Adult)
Keyword 1: traumatic brain injury
Keyword 2: apathy
Keyword 3: cognitive functioning
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28 Cognitive, Emotional, and Interactional Determinants in Loneliness, in a Heterogeneous Sample of Puerto Ricans with ABI in the Chronic Phase

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https://doi.org/10.1017/S135561772300231X Published online by Cambridge University Press